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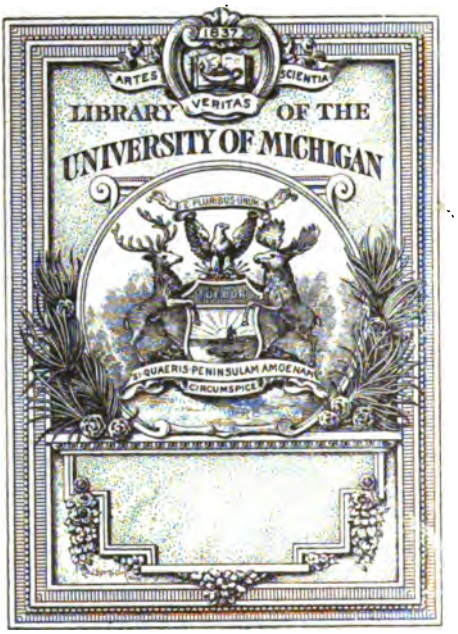
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BUREAU OF STATISTICS

No. 296

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MAY, 1905

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MAY, 1905. No. 296.

NEW MONETARY LAW OF MEXICO.

(From United States Consul-General Hanna, Monterey, Mexico.)

The Monterey News publishes the following telegram relative to the stability of the Mexico peso:

MEXICO CITY, *March 26, 1905.*

This morning's Diario Oficial commences the publication of the law on monetary reform. This first decree, signed by the President yesterday afternoon, is the most momentous measure in the fiscal history of Mexico, placing it in the front rank among nations by virtue of its advanced currency system, which vastly improves and makes stable the national peso. The plan of reform naturally conforms along general lines and in most of its details to the enabling act of Congress promulgated on December 9, 1904. The chief interest of the decree of to-day turns on the date when it will become operative, which is fixed as May 1, 1905, but the free coinage of silver will be suspended after the middle of April, and the present gold coins will cease to be legal tender after July 1, 1906. Although in his exposé de motif Minister Limantour intimated that the Government might not create a reserve fund immediately, such a fund forms the initial feature of the new legislation. Among the most salient provisions of the decree are the following:

UNIT AND COINAGE.

The theoretical unit of the monetary system is represented by 75 centigrams (11.57 grains) pure gold, and denominated a peso. Pesos have been coined hitherto with a weight of 24.4388 grams pure silver. The peso is divided into 100 centavos, the coins to be struck as follows: Gold, 10 and 5 pesos; silver, 1 peso, 50, 20, and 10 centavos; nickel, 5 centavos; bronze, 2 centavos and 1 centavo. The power of coining will appertain exclusively to the executive, and the power of private persons to introduce gold and silver bullion into the mints of coinage will be abolished. The mintage of new gold coins will be confined to the quantity necessary to effect an exchange with the present gold coins,

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which cease to be legal tender after July 1, 1906. Under special c cumstances the executive is authorized to permit the free coinag gold.

After the law is operative, and save under special circumstan optional with the executive, the new silver coins will be struck issued in exchange for gold coin or bullion only at the rate of 75 ce grams (11.57 grains) pure gold per peso. Gold thus received may employed in the purchase of silver bars on the scale necessary for mintage of silver coins applied for.

The obligation to issue silver coins and the delivery of the sam exchange for gold will cease when the silver that would be contai in a peso has, in the City of Mexico, a value superior to 75 centigra (11.57 grains) pure gold. Otherwise the obligation will be made eff ive within the period of time under the conditions fixed in the law.

The new subsidiary coins will be struck from metal obtained by melting down of other silver coins of the current issue, unless issue be applied for in exchange for gold as provided for in article For the coinage of nickel and bronze pieces the metal may be purcha in open market, but none will be made when the stock thereof m tioned in article 27 shall exceed $200,000.

The restriction imposed by the foregoing articles on coinage emission are not applicable in the case of recoinage, but the total va represented by the new coins must be equal to that of pieces tur in for recoinage.

Any inhabitant of the Republic is entitled to exchange subsidia coins for dollar (peso) pieces and vice versa, provided the amount $100, or an exact multiple thereof.

Exclusively for exportation, the department of finance may auth ize the mintage of dollars of designs antedating those of 1898, provi they bear the special marks.

LEGAL TENDER.

The obligation of paying any sum in Mexican coin is satisfied by handing over of coins of the issues current for the value they represe therefore Government offices and all persons and corporations obliged to accept them.

Gold coins of any value and silver pesos are unlimited legal tend As for all other coins, their acceptance is only obligatory for a s not exceeding 1 peso as regards nickel or bronze coins.

Except where the law expressly provides to the contrary, forei coins are not legal tender in the Republic. Engagements to pay foreign coins, contracted within or outside the Republic, will be f filled by the delivery of the equivalent in native coin at the rate exchange prevailing on the day and at the place where the payment effected.

The terms of the three foregoing articles are not relinquishab Therefore, articles 1423 and 2690 of the civil code of the Federal d trict are derogated.

REDEMPTION FUND.

There is created a fund whose fundamental purpose is to facilit the regulation of the quantity of coin in circulation so as to maint stability in the rate of the foreign exchange.

The fund for the regulation of the monetary circulation will be kept wholly separated from the other funds of the Federal exchequer and be formed from $10,000,000 from the treasury reserves, to be increased to $15,000,000 if the department of finance sees fit, and from minor sources, such as the profit of the coinage, etc.

It is provided that a portion of the fund shall be remitted abroad, to be deposited with banking firms of the highest standing. That portion kept in the Republic will consist of metallic money, and, by way of exception, of gold or silver bars destined for coinage, to the exclusion of bank notes or other form of currency placed in confidential deposit in the National Bank of Mexico or some other institution the credit of which is of the highest standing. Silver coins entering the fund will not leave it again save in exchange for gold of the legal parity or in exchange for other silver coins of equivalent value or for drafts payable abroad in gold or to be exported.

The law becomes operative May 1, 1905.

PHILIP C. HANNA, *Consul-General.*

MONTEREY, MEXICO, *March 27, 1905.*

HOW TO INCREASE OUR FOREIGN TRADE.

(From United States Consul McNally, Liege, Belgium.)

American manufacturers contemplating an entrance into foreign markets must show that their products possess the merit claimed for them, and must meet the traditional trade customs, especially in the all-important matter of credits. It is true that some houses will meet the requirements of American manufacturers as to payment in thirty, sixty, or ninety days, but there is a universal objection to this method of payment. Against the custom of drawing on the foreign purchaser against the bill of lading there is a growing prejudice. Among other reasons advanced against this method is that the purchaser who buys from sample has no opportunity to examine his goods before payment. It is said here that in a few instances the goods received have not been according to sample, and that when objection was made to the exporter he emphatically stated that the goods were as ordered and refused to comply with the purchaser's request to exchange them. Buyers in the province of Liege desire to see the goods before paying for them, and as this right is freely accorded them by the manufacturers of other countries they can not understand why the American manufacturers should refuse. The consequence is that while the local dealers recognize the superiority of our goods they prefer to deal with France, Germany, and England, whose producers will not only extend long credits, but will readily grant any reasonable concession their customers may demand.

In many cities of Europe (outside of the capitals and larger places, where commercial conditions, due to the cosmopolitan make-up of the

business men, demand different terms) the retail dealer extends his customers a credit for six months or a year. This is an establish custom, and to urge a more speedy payment would probably compr mise him. If conditions are favorable, the manufacturers of the larg European countries will sell goods on any terms to suit the ret buyer. Sometimes the manufacturer will insist on the payment interest on the account, if the term of credit is a long one. T smaller and particularly the interior cities are wedded to their t ditional conservatism. Habits and customs are studiously catered by the manufacturers of the adjoining countries, and while they m insist on other methods in the larger places, they will gladly c form to local trade conditions. This distinguishing faculty of Eu pean manufacturers has an adhesive influence on a shopkeeper that not readily overcome by manufacturers imposing harder conditio

While these same people are slow to take on new forms, once sat fied they will cling to the new with the same tenacity that mark their retention of old customs. The least business deception arou a suspicion which is hard to remove. All imported articles must f low closely the sample, and the proclaimed capacity of machines m be verified by trial.

American goods are eagerly sought for and invariably comman premium that the customer pays unhesitatingly by reason of th being American. I believe that when the time comes that Americ manufacturers must of necessity look abroad for markets and the fore must meet those of other countries in open competition, both the quality of the goods and in the terms of credit, the markets w be theirs. Where American goods are sold abroad the fact is s cially advertised. The demand seems universal, whether it be for l larger class of goods, or toys and mechanical devices sold on the str corners.

While visiting one of Belgium's famous seaside resorts during t summer, I was agreeably surprised to note that the bazaars and sh sold the American flag, while the children in mimic battle placed it the top of their tiny forts. I thought, of course, that the child having the flag were Americans, but discovered that such was not t case. Not one of the children I spoke with could give me any rea for having the flag other than that his papa had bought it for hi This little incident harmonized with the general sentiment of resp manifested toward all American citizens, who can not fail to wonc at the cause of such a pleasant change from some years ago.

JAMES C. MCNALLY, *Consul*

LIEGE, BELGIUM, *February 25, 1905.*

OPENINGS FOR AMERICAN MANUFACTURES IN GERMANY.

(*Extracts from the annual report of United States Consul Kehl, Stettin, Germany, for 1903–4.*)

Catalogues.—It is a waste of time and money to send catalogues printed in English to Germany with a view of gaining trade. The German language and metric weights and measures should be used and, if possible, quotations should be made f. o. b. New York.

Terms.—A number of importers complain that our terms are hard, requiring part with order and balance against documents. In this way the consignee pays in full before he is in possession of the goods. German merchants selling to foreign countries will make almost any terms asked for. There are certain classes of goods sold on a very close margin, and in such cases the business is done on a cash basis.

Furniture.—Considering all that has been said in the past about the German field for American furniture, it is surprising how little has been done. Furniture is very expensive in Germany, and any manufacturer taking the pains to secure a few samples of the best sellers in beds, chairs, washstands, linen and clothes closets, kitchen furniture, etc., for the purpose of duplicating them can, in my opinion, do a good business. Cheap pieces should come in the white, knocked down.

Furnaces and ranges.—If the practicability of American furnaces and ranges were demonstrated to German house builders an immense field would be opened. The general mode of heating better-class flat buildings is by steam and hot water. Every kitchen has a cook stove of brick, tiling, and iron built into the corner of the room at the time of building the house. It would be out of the question to replace them; the business would lie in supplying new houses.

Shoes.—The invasion of American shoes has reached Stettin to a very limited extent. The sign "American shape" on the German-made article is very common; real American shoes are displayed in very few styles and shapes.

Agricultural machinery.—The provinces of Pomerania and East and West Prussia are more agricultural than industrial. Our reapers, self-binders, mowers, hay rakes and rickers, grain drills, etc., should be better represented. If the business of securing orders is to be left entirely with the German agent he is going to sell that make which brings him the largest commission. Merit will be left out of the play, and British-made machinery will have the best of it.

OPPORTUNITIES FOR TRADE AND INVESTMENTS I BRAZIL.

Under date of March 4, 1905, United States Consul-General Euge Seeger, Rio de Janeiro, transmits the following article published the Brazilian Review of February 28, which he fully indorses:

Manufacturing industry in this country is in its infancy, in spite almost savage protection, and, except for cotton and woolen textil of the coarser kind, boots, shoes, hessians, matches, and a few oth minor articles, there is practically all yet to be done. In consequen of the growing tendency to protection that threatens to become pr hibitive nothing or little is to be made out of imports, but manufa tures, if properly undertaken, will always pay.

There is no reason why, with magnificent forests such as ours, rollir stock should not be constructed in the country, and even exporte The timber industry itself is waiting for American methods and ener to make it one of the most profitable of the country. Splendid fores of hard wood are to be found almost everywhere, while from the co fines of Sao Paulo to Rio Grande stretches an almost uninterrupte belt of pine that will one day supply all South America with lumbe Agriculture and cattle breeding offer immense possibilities to energet and modern treatment, but are, perhaps, beyond the scope of foreig capital.

In the construction of ports and harbors and the organization c communications with the outside world there is a wide and lucrati field for enterprise. Railways, too, are greatly wanted, but most c the paying lines have been made already, and without some accomp nying scheme of settlement or colonization others are not likely t prove very profitable.

Mining has a good future, but no present until tenure is more clearl defined, it being practically impossible at present to obtain undisputc possession or titles.

There are, however, few of these obstacles that can not be overcon by perseverance.

FAILURE OF EUROPEAN ORANGE CROP.

(From United States Consul Covert, Lyon, France.)

The fruit dealers of Lyon have received reports from Italy, Spai and the south of France to the effect that the orange crop is almost complete failure. The most optimistic opinion is that there will l about one-fourth of a crop, and even that will be poor, the orang being without odor and almost juiceless. A dealer in this city state that he has sent all over Spain and Italy, and does not know where t look for oranges, unless he can get them from the United State The supply generally comes from Marseille to Lyon and other parts o France. A dealer here has received a letter from his wholesale hous in Marseille, in which the writer says that he usually buys 7,500,00 kilograms (16,534,500 pounds) of oranges a year, but that this yea

he can not hope for over 500,000 kilograms (1,102,300 pounds). The effect of this orange famine will be felt far and wide in France. Thousands of poor people make a living during the summer months by selling oranges from carts and baskets about the streets, and the blow strikes them at a season when they have nothing else to depend upon.

A wholesale dealer in this city asked me this morning whether he could depend upon a supply from the United States. He wants to know the prices for the different qualities of oranges and the time required to land them in this country.

The papers this morning note that the orange growers have discovered a new enemy to their fruit more dangerous perhaps than the changes in the weather. In the region of Nice and some parts of Spain and Italy the trees have been found to be dying. An investigation has proved that the trees are attacked by an insect called *Chrysomphalus minor*, which they say has been brought to them from America. They think it is a cousin of the phylloxera. They say that it is more destructive here than in the United States.

It is stated that the *Chrysomphalus* also attacks lemon trees, magnolias, camelias, palms, and laurel trees.

JOHN C. COVERT, *Consul.*

LYON, FRANCE, *March 25, 1905.*

AGRICULTURAL EXPOSITIONS IN FRANCE.

(*From United States Consul-General Guenther, Frankfort, Germany.*)

The following expositions are to be held this year: At Bordeaux from May 27 to June 4; at Lyon from June 3 to 11; at Rouen from June 7 to 25.

The exhibits are limited to the products of France and her colonies, but foreign-made implements and machinery may be exhibited if first reported to the ministry of agriculture, 78 rue de Varenne, Paris, on a special printed form to be obtained from the ministry. Besides this, the foreign exhibits must be represented by a French firm.

Machinery and apparatus for dairy and cattle products and for the vintage industries are especially suitable for the Rouen exposition. The expositions at the other two cities offer good opportunities; and all three promise a good opening for motors using petroleum or other substance.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *March 11, 1905.*

FAST FREIGHT TRAINS FOR GERMAN RAILWAYS.

(Extract from the annual report of United States Consul Muench, Plauen, Germany, for 1903-4.)

The never-ceasing trend toward reforms and improvements in th national railway system of Germany has lately received an impetus i two more than ordinarily important directions. First, it is urge upon the Government that the present slow methods of transportin freight by means of long trains moving at an average speed of fro 15 to 18 miles an hour have proved an intolerable check to the devel opment of trade in Germany, as they have likewise become a seriou interference with the maintenance of fast passenger traffic. It i reported that the managements of the railway systems look with favo upon the proposed introduction of fast freight trains equal in speed t existing passenger trains, but are confronted with the necessity i that event of equipping the entire rolling stock with automatic ai brakes in lieu of the hand brake now still applied to freight cars here Of necessity an innovation of this nature would demand other change in existing conditions, such as the enlargement of the present smal European freight car and the discharge of a large number of brakemen

Again, the low stage of water in all German streams, brought abou by this summer's continuous drought, having practically paralyzed th larger part of the water traffic in this country, and many of Germany' leading industries being entirely dependent upon cheap transportatio for the supply of bulky material at rates which permit of a profitabl conduct of those industries, a loud demand has arisen for a materi reduction in present railway freight rates, so as to aid these enterpris in bridging over a dangerous juncture in their affairs. While on i face this is a movement for mere temporary relief, the circumstance h served to bring on a fresh discussion of the whole subject of Europea freight tariffs, and has given further color to the claim that they a unreasonably high. A comparison between those rates and such prevail in the United States has frequently been made in consul reports and need not be repeated here. Suffice it to add that th difference is habitually pointed to here as one of the causes which ha enabled the United States to offer its products abroad in successf competition with those of Europe.

IMPORTED MEATS AND HORSEFLESH IN GERMAN

(From United States Consul-General Mason, Berlin, Germany.)

The importation of fresh and cured meats into Germany—forme such a prominent item in the import trade, especially from the Uni States—has continued to decline under the influence of the rigid a exacting meat-inspection law which went into effect April 1, 19 That this result was one of the principal aims and purposes of

law, which was framed and enacted under agrarian influences to protect the meat growers and butchers of Germany from foreign competition, was from the first openly avowed and understood.

The disastrous effects of the law upon meat imports were noticeable immediately after its enforcement, the receipts of fresh meat during the first three months having dropped from 5,776 tons in 1902 to 3,250 tons during the same period in 1903. The scarcity of fresh beef and veal became so great and their cost so high that the demands of the market, which could not be adequately supplied from home-grown animals, compelled an increase of imports, so that the whole imported supply of these meats, which had fallen from 13,607 metric tons in 1902 to 10,647 tons in 1903, rallied to 13,883 tons in 1904, of which 7,274 tons came from Denmark, 236 tons from France, 5,963 tons from the Netherlands, and 320 tons from Austria-Hungary. But the full force of the new statute has fallen upon pork, both fresh and salted, and upon the whole group of smoked and preserved meats, the imports of which during the past three years have been as follows:

Imports of pork and pork products into Germany, 1902, 1903, and 1904.

Kind.	1902.	1903.	1904.
	Tons.	*Tons.*	*Tons.*
Fresh pork and hams	19,120	8,357	4,905
Slightly salted pork and hams	6,865	3,592	2,338
Hams, cured	2,522	1,437	975
Bacon, cured	9,839	4,972	2,469
Sausages	105	99	82
Total	38,451	18,457	10,769

The total meat imports in these five classes in 1904 were therefore less than a third of those received in 1902.

In connection with the general subject of meat supply, it may be interesting to note the increasing consumption of horseflesh among a large class of people of moderate means, many of whom eat fresh meat of any kind only on Sundays and other festival days. There is in the Greifswalder Strasse, Berlin, a regularly installed horse slaughterhouse, which is under careful police supervision, with a veterinary surgeon in attendance to see that no animal is killed the flesh of which would be, by reason of disease or other cause, unfit for human food. In 1895 the whole number of horses killed in Berlin for meat was 7,267. In 1900 the number had increased to 10,815, and in 1904 to about 13,000. Estimating that an average-sized horse will yield 230 pounds of edible flesh, there was derived from this source last year about 3,990,000 pounds of meat, which was sold for consumption in 64 shops which are specially licensed for that purpose.

At Breslau, which has a population of about 500,000, against the 2,500,000 in Berlin and its suburbs, 3,800 horses were killed last year for human food, so that the proportion of horseflesh eaten per capita

was much larger in Breslau than Berlin. In southern Germany, and notably in Saxony, where the percentage of working people in manufacturing districts is exceptionally large, the consumption of horseflesh is still greater, and is constantly increasing.

The choicest cuts of horse meat sell in Berlin for from 35 to 40 pfennigs (8 to 10 cents) per pound. Meat from the forequarters or from any part of poor, old, or inferior horses sells as low as 3 and 4 cents. But the liver is considered a delicate morsel and brings 10 cents per pound. The inferior pieces go into the mill for the manufacture of those strongly spiced and garlicky sausages that are the favorite food of many servants and working people in this country. In the better grade of these sausages pork is mixed to give the requisite fatness, and when sold for consumption in Berlin they must be plainly labeled "Pferdefleisch" (horseflesh). But outside the municipality this regulation is not enforced, so that quantities of sausages made of horseflesh, with only a small percentage of pork, veal, or other meat in their composition, are sold to the country districts or exported to neighboring countries as ordinary pork sausages.

Apart from the very general sentiment of respect for the horse as an animal too noble and useful for the degradation of the slaughter-house, there is perhaps no good reason why its flesh is not as clean and nutritious as that of horned cattle, and the fact of its far greater cheapness, in a country where all meat is so costly as it is now in Germany, makes the well-regulated system of horseflesh preparation and supply in Berlin a real boon to a large class of people.

FRANK H. MASON, *Consul-General.*

BERLIN, GERMANY, *March 8, 1905.*

HANGCHAU SILK TRADE.

(From United States Consul Anderson, Hangchau, China.)

The returns of the silk trade in the Hangchau silk district for 1904 are surprisingly satisfactory. The year promised ill from every standpoint, and the record up to the close of the third quarter was in keeping with predictions. At the end of the September quarter the silk exported was about 4,500 piculs (599,850 pounds), while at the end of the year the record showed exports of about 6,800 piculs (906,440 pounds). The greatest increase in this spurt of the last quarter was in silk cloth (piece goods), which is that portion of China's silk trade which has been showing the greatest decline in the long story of the decay of the Empire's ancient industry.

It is said by silk dealers that the large shipments of the close of the year represent purchases made for the trade in Manchuria, it being expected that the war would soon end there and that there would be an opportunity to supply the markets of that portion of the country

with stocks which at best it has been hazardous to supply for some time. However this theory may be taken, it is generally understood that the increased sales of this year, especially in piece goods, represent abnormal conditions, and that the decline which has been continuous for a number of years in the silk trade of China generally, and especially of Hangchau and Suchau, where the Chinese silk stuffs are still made in the old way, is in reality yet to be noted. The record for the year, which only partially represents the real exports, since the native likin will cover some exports, is as follows:

Exports of silk and silk manufactures from Hangchau, China, in 1904.

Kind.	Quantity.	Value.
	Pounds.	*Dollars.*
Raw white	183,500	423,907
Thrown	4,100	12,827
Wild	133	49
Steam filature	122,800	386,891
Cocoons, whole	28,000	8,362
Cocoons, pierced	104,100	22,427
Refuse	597,600	122,198
Wadding	31,000	2,082
Piece goods	288,900	1,243,692
Thread	700	2,107
Total	1,360,833	2,224,542

The course of the silk trade of Hangchau, as shown by the customs' reports, is of the greatest significance. It shows a state of things which means a revolution in the silk business of China. The decline in the volume of the exports of silk cloth or piece goods has been steady, with the exception of the year just closed, for reasons noted, and the increase in the exports of refuse silk has been in still greater proportion to countries where improved machinery and improved processes make it possible for the product to be utilized and worked into fabrics which are, as a matter of fact, driving Chinese silks from the markets of the world. There has been considerable experimenting with raw silk and cocoons in several forms on the part of foreigners engaged in work in silk, and this experimentation shows itself in the returns of the exports from this port. The figures covering the silk trade of China during the past few years merit the closest attention of Americans concerned in the silk business. The returns from this port—which may be taken as representing the silk business of central coast China—for the past six years are as follows:

Exports of silk and silk goods from Hangchau, China, during six years ended with 1904.

Year.	Raw and thrown.		Steam filature.		Cocoons.		Refuse.		Piece goods.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Pounds.	*Dollars.*	*Pounds.*	*Dollars.*	*Pounds.*	*Dollars.*	*Pounds.*	*Dollars.*	*Pounds.*	*Dollars.*
1899	247,100	.....	50,300	.....	33,600	.....	98,900	.....	559,100	.....
1900	70,700	.....	103,100	.....	101,600	.....	115,800	.....	341,200	.....
1901	197,200	467,364	50,900	165,745	50,000	18,047	157,300	41,283	333,900	1,051,778
1902	116,900	296,942	90,000	293,124	118,000	44,747	173,800	55,829	284,700	926,633
1903	110,500	258,263	100,700	258,263	96,800	29,545	229,700	35,517	237,400	1,020,516
1904	187,600	436,782	122,800	386,891	132,100	30,789	597,600	122,198	288,900	1,243,692

The fact that the world in general is taking less of China's silk cloth each year, while silk-producing countries are taking more and more of its waste silk and the lower products of the silk-producing industry, explains a general trade movement. China is proving itself unable to compete in silk manufactures, while its economic position is enabling it to produce raw material for nations better able to carry on the higher forms of manufacture.

GEORGE E. ANDERSON, *Consul.*

HANGCHAU, CHINA, *February 15, 1905.*

CANTON-HANKAU RAILWAY.

(From United States Acting Consul-General Cheshire, Canton, China.)

The Samshui branch of the Canton-Hankau Railway, now in operation, consists of 10 miles of double track between Shekwaitong and Fatshan and 20 miles of single track between Fatshan and Samshui, which practically makes 40 miles of line operated by the company. Trains commenced running over the extension from Fatshan through to Samshui on September 26, 1904, with a daily average patronage for the month of October in and out of Samshui of 238 passengers, which increased in the month of December to 854.

The railway is very little used to carry merchandise, although quite large amounts of fresh vegetables, fruit, etc., are beginning to be carried over it. The company has made no effort to get regular freight, and does not run freight trains. What little freight is carried is more in the nature of express matter, and is carried in the baggage car on the main trains. The number of passengers carried in each car in December, 1904, averaged 63.9920, and the ratio of expenses to earnings for the month was 39.13 per cent.

There is none of the main line completed. Twelve miles from the Canton end are nearly completed, grading being entirely done, bridges all in but two or three, and the track laid 6 miles out, although it has not been lined up or surfaced. When the company starts construction again it will probably take three or four weeks to complete and put into operation these 12 miles.

Location surveys have been made for only about 100 miles from Canton, but on the Hankau end about 150 miles have been located. One preliminary survey has been run entirely through, but the final location will undoubtedly change this line in many places.

F. D. CHESHIRE, *Acting Consul-General.*

CANTON, CHINA, *February 1, 1905.*

CARD CATALOGUE SYSTEM AT PRAGUE CONSULATE.

(*From United States Consul Ledoux, Prague, Austria.*)

The card and catalogue system adopted at this consulate has received such commendation from American and foreign exporters and importers that the writer has decided to considerably extend its scope. He requests American exporters and importers to favor this consulate with the following data: Name of firm and address, codes used, code address, export discounts, terms of payment, languages of correspondence, references or commercial rating, nature of exports, nature of imports, list of foreign branches and agents, to be accompanied by catalogues, price current, discount sheets, circulars, photographs, etc., in fact, with the commercial literature necessary to assure immediate sales.

These data are carefully filed in the commercial intelligence department of this consulate, as follows:

1. The "nutshell" data are entered on regular 3 by 5 record cards, alphabetically indexed by firms.

2. Separate entries are then made on the "merchandise" record cards and alphabetically indexed by articles.

3. The catalogues, price current, discount sheets, circulars, photographs, etc., are filed in special folders and numerically indexed, each firm's permanent consular number corresponding to that registered on the "merchant" and "merchandise" record cards.

The foreign intelligence department has two sections, American and foreign. Each section is divided into (*a*) exports, (*b*) imports, (*c*) merchants, (*d*) merchandise. Each division has cards and folders of a different color, that errors in filing may be guarded against.

This system assures complete and immediately available commercial information. It rids exporters and importers of the annoyances of epistolary angling.

Example: The buyer, American or foreign, desires automobiles. He addresses himself directly to this consulate. Under the index, "Automobiles," we find immediately lists of American and foreign exporters and importers of automobiles, together with their addresses and folder numbers. This is the key opening the door to the record cards, which, in turn, indicate the respective "trunk folders."

The active cooperation of American exporters and importers is absolutely necessary to the complete success of this simple system.

URBAIN J. LEDOUX, *Consul.*

PRAGUE, AUSTRIA, *March 4, 1905.*

COMPULSORY SETTLEMENT IN BUSINESS FAILURES.

(From United States Consul-General Guenther, Frankfort, Germany.)

In a memorial addressed last autumn to the minister of justice of the German Empire, the Chamber of Commerce of Berlin requested the Government to submit a bill to the National Legislature for compulsory settlement in cases of business failure without resort to bankruptcy proceedings. Since then many other chambers of commerce have come out in favor of the proposed law. The Chamber of Commerce of Frankfort, in a recently published communication to its members, dealing with this subject, says:

The existing bankruptcy proceedings are attended with a series of disadvantages not only to the debtors, but to the creditors, and at times to third parties who are not at all connected with the case. The mere fact that bankruptcy proceedings have been instituted, depreciates, as a rule, the selling value of the assets of the debtor. Therefore the financial results from the bankruptcy cases are usually very unfavorable. On an average the assets do not yield more than 10 per cent of the unpreferred claims. Aside from this, solid business firms often suffer serious damage from the compulsory sale of the bankrupt stocks.

The commencement of bankruptcy proceedings not only lowers the social standing of the debtor, but usually destroys his business career. In view of this, many debtors struggle on ineffectually so as to avoid bankruptcy proceedings, although they thereby make their own position worse and injure the interests of their creditors.

Bankruptcy proceedings are tedious and the costs exceedingly high in proportion to the assets. Official German statistics show these costs to be 40 per cent of the value of the assets except when the assets are uncommonly large. In consequence of this it now frequently occurs that the debtor seeks to effect an amicable compromise with his creditors. There are also in Germany associations of merchants whose purpose is to promote such compromises. By this method the creditors fare better, because the debtor and his friends are more inclined to make sacrifices. The Chamber of Commerce of Berlin, in its memorial to the minister of justice, notes 193 cases of failure in which the compromise offers of the debtors failed of acceptance because objection was made by some creditors whose claims were quite small, therefore the debtors were forced into bankruptcy courts. The compromise offers had averaged 49.95 per cent of the claims, but in bankruptcy 138 of the cases realized only 21.33 on the average, while in the remaining 55 cases a compulsory settlement was ordered by the court, realizing 35.36 per cent on the amount of the debt. Under the existing law the refusal of a single creditor prevents a compromise settlement.

Quite a number of States have enacted laws for the support and protection of voluntary compromise settlements, namely, Italy, France, England, Netherlands, Spain, Portugal, Norway, Brazil, and Argentina. In compliance with the request of commercial bodies, the Austro-Hungarian Government has laid a bill before the Legislature which calls for a meeting of the creditors before bankruptcy proceedings can be opened.

The Berlin Chamber of Commerce recommends the adoption of the following clauses in the proposed enactment:

1. The debtor must prove that his books (accounts) were properly kept.

2. His offer at compromise must not be less than 40 per cent of the debts.

3. When parties representing three-fourths of the amount of the claims are willing to accept the compromise offer, their decision becomes binding on the dissenting minority.

There are also a few suggestions of minor importance offered with regard to managing the proceedings. Among these is one that the courts may exercise supervision of them, and another that the creditors' committee which is to inspect the books and business of the debtor shall not receive any compensation for its work.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *March 7, 1905.*

REDUCTION OF MINING TAXES IN MEXICO.

(From United States Consul Le Roy, Durango, Mexico.)

At the time when the reform of the Mexican currency, beginning with the repeal of the privilege of free coinage of silver, was foreshadowed last November in the message of Finance Minister Limantour, it was virtually promised that compensation would be made to the mining industry in the shape of reduced imposts on its products in the country and on the machinery, etc., imported for its use from abroad. Therefore a decree of President Diaz directed toward such relief of the mining industry has just followed the decree establishing the gold standard for the national currency on and after May 1 next.

The new measures of currency reform make the so-called "coinage tax" on gold and silver obsolete, and it is abrogated by President Diaz's decree of March 25 relative to mining taxes, etc. Melting and assay dues are to be regulated by rules based upon the cost of these operations when they shall be necessary. Gold and silver produced in Mexico or coming from abroad are henceforth to be subject to internal-revenue stamp taxes as follows: (*a*) At the rate of 3½ per cent on the value of gold and silver not reduced in the Republic, but exported in the form of ore or mineralized earth, cyanides or sulphides, slag, or in any other form in which they are combined or mixed with substances other than metals; (*b*) at the rate of 2½ per cent on the value of gold and silver reduced in the country to such point that they are without alloy or mixture, save with other metals, regardless of the fineness of the product. Gold, for the purpose of this tax, is to be valued at the uniform rate of 75 centigrams of pure gold to the Mexican dollar (this being the gold value henceforth assigned to that dollar).

Silver is to be valued for this tax upon the basis of the average price in the London market during the preceding month. Metallurgical establishments in the country which refine either metal to at least 0.999 will be entitled to some rebate on the 2½ per cent tax so imposed, the amount of which rebate will be determined and promulgated before July 1 next. (The miners have been holding a convention at Mexico City in behalf of a reduction of their taxes, and are to cooperate with the Government in furnishing data upon which this further reduction in the tax will be based.)

It is provided that all metallurgical establishments of any sort which expect to secure the benefit of this new decree, in regard to taxation or other matters, must explicitly surrender the special concessions granted to them in the past. Moreover, the policy is definitely announced of not granting such special concessions in the future. Finally, the above stamp taxes are not payable on the following:

(*a*) Refined gold entered at the mints for coinage and that presented at Government offices with a view to obtaining silver coins in exchange therefor at the rate of 75 centigrams of pure gold per dollar.

(*b*) Gold or silver coins of current national or foreign issues.

(*c*) Silver exported in the form of ore, earth, or dust, whether these be in their natural state or mechanically concentrated, and in the form of sulphides, cyanides, or slag, provided that the quantity of silver contained in any of these substances does not exceed 250 grams (3,458 grains) per ton.

(*d*) Silver and gold which, after being imported into the Republic in any of the forms mentioned in the foregoing section, or in a state of preliminary treatment, are exported within the next four months, in ingots, slabs, or bars, after having passed through metallurgical processes in Mexican establishments.

(*e*) Gold and silver employed in national industries.

(*f*) Samples of ore in the natural state, subject to conditions fixed by administrative enactments.

In the way of concessions and reductions in behalf of the mining industry at the custom-houses, the following provisions are made in the new decree:

ART. 13. Import duties will cease to be collected on zinc in pigs, filings, pellets, or in the filiform state, under section 295 of the tariff of the general custom-house ordinances; sulphur, under section 358; alkaline cyanides, under section 677; hyposulphite of soda, under section 697; saltpeter or nitrate of soda or potash, under section 716; and zinc sheets, under section 303 of said tariff, when their dimensions do not exceed 1 by 2.25 meters (37.37 by 88.6 inches) and 1 millimeter (0.0394 inch) in thickness, provided that they have perforations at intervals of 20 centimeters (7.87 inches) in any direction.

ART. 14. Import duties will also cease to be collected on sulphuric acid, now under section 654 of the tariff, and sulphate of copper, included in section 719; but these exemptions will last only until June 30, 1908.

ART. 15. The import duties payable on machines intended for mining operations, or for metallurgical establishments in which the precious metals are treated, will be returned to the concerns which have ordered the same, provided that said machines are of the kind embraced by section 800 of the tariff of customs ordinances, and provided that the interested parties perform strictly all the requirements mentioned in the following article. This franchise only applies to machinery imported before June 30, 1908.

The regulations mentioned in the last article have to do with advance notification to the custom-house through which the machinery is to be imported, the form of invoice, and the plans or drawings to accompany the invoice, and they also provide that the machinery must be installed within six months after entry, whereupon the duty paid will be refunded. Entry, if by various shipments, must be through the same custom-house.

All the foregoing provisions of the decree will take effect from May 1 next. In addition, there are other provisions of the decree to take effect July 1 next, which reduce the amount of taxes paid for titles to claims, as annual claim taxes, and to the State governments on mineral production. The amount of stamps required to be affixed to the title of each "pertinencia" (claim) after July 1 next will be $5 Mexican instead of $10 as at present. The annual tax paid to the Federal Government on each claim will henceforth be uniform for all kinds of minerals, at $6 Mexican per claim, or $2 at each four-monthly period. A company having more than 25 contiguous claims can group them and pay at the rate of $3 annually per claim above the number of 25. The annual "pertinencia" tax has hitherto been $10 on claims bearing precious metals and $2.50 each on claims bearing quicksilver, iron, tin, and copper.

Under previously existing Federal laws the State governments of Mexico have been permitted to levy taxes on mineral production up to a maximum of 2 per cent. Under the new decree this maximum is reduced to 1½ per cent. Upon this tax there is always a surcharge of 25 per cent of the original tax for the benefit of the Federal Government.

JAMES A. LE ROY, *Consul.*

DURANGO, MEXICO, *April 3, 1905.*

OPPORTUNITIES FOR CONTRACTORS.

(From United States Consul-General Guenther, Frankfort, Germany.)

MUNICIPAL WORKS.

Argentina.—The Government of Argentina plans the construction of sewerage works for the city of Mendoza.

Austria.—The municipality of Bruck, Styria, will expend about $54,000 for the extension of its electric system and the improvement of the railway station.

The municipality of Deutsch-Landsberg, Styria, intends to have waterworks built.

The city of Salzburg will erect water-gas works and add extensive improvements to the municipal electric plant.

The municipality of Vienna is about to order various machines for use in the workshops of the city's tramways.

Brazil.—The city of Rio de Janeiro will receive proposals for installing machinery and stage effects for the theater of that metropolis.

British South Africa.—The municipality of Bloemfontein, Orange River Colony, is going to expend $1,300,000 for new water and sewerage works.

The town of Durban, Natal, has voted the following amounts to be expended: For tramways, $108,330; for electric power and lighting plant, $150,000; for telephone system, $122,500; for sewerage work, $131,700.

The town of Krugersdorp, Transvaal, will expend $425,000 on waterworks, fire-extinguishing apparatus, and other public improvements.

The municipality of Paarl, Cape Colony, will expend $100,000 for constructing sewerage works.

The municipality of Queenstown, South Africa, is negotiating a loan of $450,000, which is to be expended for projected waterworks (reservoir, etc.).

The towns of Rondebosch, near Cape Town, and Aliwal North will devote $165,000 and $100,000, respectively, for the construction of drainage works.

Belgium.—The municipality of Brussels will receive proposals for furnishing the structural iron for the city gas works.

Bulgaria.—The town of Burgas will have new waterworks constructed.

England.—The city of Huntingdon is about to install electric lighting, and the town of Dewsbury purposes the enlargement of its electric lighting plant at a cost of $50,000.

Germany.—The town of Bad Orb will install electric works for lighting.

Mexico.—Water and sewerage works are projected by the city of Orizaba.

Netherlands.—The municipality of The Hague projects the building of an iron bridge.

The municipality of Watergraafsmeer projects the installation of waterworks and electric lighting.

Senegal.—The town of Dakar is to install electric works for lighting and as motive power for a tramway line.

Switzerland.—The city of St. Gall is to have new sewerage works at an estimated cost of $600,000.

Spain.—An abattoir is to be built by the municipality of Tordesillas. The Spanish minister of public works at Madrid has been authorized to expend $140,000 for waterworks and water meters.

RAILWAYS AND RAILWAY SUPPLIES.

Austria.—A railway is to be constructed between Zwettel and Martinsberg.

Brazil.—The ministry of public works in Rio de Janeiro has granted a credit of $1,800,000 to the Estrada de Ferro Central do Brazil, for extending its railroad line.

British India.—The chief commissioner of Assam, at Shillong, British India, will receive proposals for constructing a steam tramway line, 33 miles in length, to run from Sylhet to Kulaura, a station of the Assam-Bengal Railway. The Government will grant various privileges to this new line, and for the term of ten years give it a yearly subvention of $11,000.

British South Africa.—The administration of the Orange River Colony has decided to build a railroad from Ladybrand to Modderport.

Bulgaria.—The government of Bulgaria is going to expend $800,000 in the purchase of 20 locomotives, 33 passenger cars, 400 freight cars, and 150 trucks. Apply to the ministry for construction and transportation at Sofia.

China.—The construction of railroad lines from Canton to Kweilin and from Nanchang to Kinkiang is projected.

Netherlands.—A steam tramway is to be built by the Noorder Stoomtramwagmaatschappy in Alkmaar.

Railroad workshops are to be erected at Utrecht at an estimated cost of $114,200.

Portugal.—The ministry of marine in Lisbon will receive bids for the building of a railroad depot at Lourenço Marquez, East Africa; estimated cost, $500,000.

Roumania.—A railroad line 21 miles long, to cost $440,000, is to be built from Ploesti to Valeni de Munte.

Spain.—An electric tramway is to be built in Bilbao.

An electric tramway is projected to run from Cartagena to La Union.

A horse tramway car line is to be built from Valencia to Moncada. Apply to Dirección General de Obras Publicas, Madrid.

Syria.—The Empain finance group in Brussels has obtained the concession for constructing electric works and an electric railroad at Damascus. The working capital of the company will be $1,250,000.

MISCELLANEOUS UNDERTAKINGS.

Argentina.—The Dirección General de Vias de Communicacion, in Buenos Aires, will award contracts for the building of several bridges.

Austria.—The town of Muerzzuschlag, Styria, contemplates the erection of electric works.

British South Africa.—The city of Johannesburg, Transvaal, projects the laying of subterranean cables for its telephone system.

Bulgaria.—For harbor improvements at Varna and Burgas $208,000 will be expended.

Chile.—The Consejo de Obras Publicas in Santiago contemplates the building of a bridge in Temuco to cost $130,730.

Dutch Guiana.—The Dutch government contemplates building several large sugar factories in Dutch Guiana. Apply to D. H. Havelaar, Chef van het Bouwdepartment, in Paramaribo.

Egypt.—The French Gas Company at Cairo has received a concession for the extensive enlargement of the electric lighting plant in that city.

India.—The Madras Railway Company will, at its office, 1 Broad street, Finsburg Circus, London, receive bids on various railroad materials (wire, plates, steel bars, etc.).

Italy.—The Societá Lombarda di Elettrica at Milan intends to enlarge its works.

Netherlands.—The Directie der Marine (navy department) in Amsterdam will purchase a quantity of canvas of different qualities.

The Hollandsche Ijzeren Spoorweg Maatschappij at Amsterdam wants to purchase a 5-ton steam crane.

Norway.—The State telegraphic bureau of Norway is open for proposals to supply it with 6 tons of bronze 1½-millimeter (0.0496 inch) wire.

Russia.—The Russian Government will this summer begin the construction of the Windau Canal, for which 22,000,000 rubles ($11,430,000) have been granted. This canal is to promote the export trade of the Baltic provinces and Lithuania to England.

Spain.—The Dirección General de Correos y Telegrafos in Madrid will purchase 65,000 insulators and 20,000 impregnated telegraph poles.

The Junta de las Obras del Puerto at Santander wants to buy 3,060 tons of coal.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *March 21, 1905.*

VITAL STATISTICS OF GERMANY.

(From United States Consul-General Mason, Berlin, Germany.)

The Imperial Bureau of German Statistics is accustomed to make and publish periodically some very interesting studies based on the vital statistics of the Empire. These studies relate primarily to the marriage, birth, and death rates, as related to the increase, change of domicile, and other movements of the population, and, taken together, shed a very interesting side light upon the steady, symmetrical growth of the German people. The latest studies of this kind have been based upon the vital statistics of 1903, and from results recently published the following facts are derived:

The census of Germany is taken at the beginning of December every fifth year. The last one, taken December 1, 1900, showed a total population of 56,367,178, an increase of 4,087,277, or 7.8 per cent, during the five years since December 1, 1895. It may therefore be assumed that the total population of the Empire during 1903, the year under observation, was about 59,000,000 souls. Among these people there were solemnized during the year 463,150 marriages, which was equal to 7.91 for each 1,000 of the population. The months most prolific in weddings were in the following order: October, May, November, and April. Of the men who married, about 44 per cent were between the ages of 25 and 30 years; the brides, in 56 per cent of all marriages, were under 25 years of age. In 95,577 cases, or 20.6 per cent of the whole number, the bride was older than the bridegroom. Ninety per cent of the men and 91 per cent of the women had not been previously married. Of the whole number of marriages, 276,468 were of the evangelical faith, 140,965 were Catholics, and 3,831 of the Jewish religion.

The total number of births was 2,046,206, of which 1,983,078, or 96.91 per cent, were living, and 63,128, or 3.09 per cent, stillborn. Born in wedlock were 1,875,672 children; out of wedlock 170,534, or 8.33 per cent of the whole number. Twins were numerous—26,265 pairs, or 13 out of each 1,000 births; of triplets there were 270 and of quadruplets 2 cases, both of the latter in Bavaria. Of the whole 52,804 children of plural births 26,816 were males and 25,388 females. Illegitimate births were most numerous in February, March, April, and May; least numerous in August and October. Stillbirths were most numerous in August, October, and June.

Against this stalwart birth record there were 1,234,033 deaths, a net gain by natural causes of 747,045 souls during the year. The most fatal months were, in order, February, January, August, September, and March; the least deadly, November, December, and June. The high death rate of February was due, as usual, to tuberculosis and other maladies of the respiratory organs, which are the scourge of this humid, sunless winter climate, and to various complications resulting from influenza. The high relative mortality of August and September, 1903, is attributed to the fact that the prevalent weather was exceptionally warm and wet, conditions under which the death rate from intestinal disease is uniformly increased in Germany. Especially fatal was that period to nursing children, the number of deaths of infants during July, August, and September, 1903, having been about 10,000, or more than those during the whole year 1902. With all the progress of German medicine and surgery; with all the amelioration that improved midwifery and skillful nutrition have provided, the infant death record is here, as elsewhere, a pathetic and lamentable one. Of the whole 1,234,033 deaths in Germany during 1903, no less than 404,529, or 34.5 per cent, were of children under 1 year of age. Leaving out of account the stillbirths,

20.4 per cent, or one in five of the children born alive, died before they had reached the age of 12 months. Of the whole number of these victims, 351,086, or 19.3 of every 100 born, were legitimate, and 53,487, or 32.7 per cent, were of those born out of wedlock. The least fatal decade of human life in Germany is that between the tenth and twentieth years. From the latter age onward the death rate increases quite uniformly with advancing age.

In respect to self murder Germany continues to present a sinister record. There were 11,393 suicides in 1900, 11,386 in 1901, and 12,336, namely, 9,763 males and 2,570 females, in 1902. This was 21 suicides for every 100,000 of the population of Germany, a rate which can only be explained by what certain psychologists have declared to be a racial tendency, accentuated in the cases of many individuals by poverty, resentment of military discipline, and fear or remorse growing out of failure to pass difficult examinations in school and college. It is noticeable, however, that the suicide death rate is slowly but steadily declining. In 1877 the proportion was 30 suicides to each 100,000 inhabitants, in 1879, 1881, and 1882 it rose to 31, since when it has gradually declined with the generally improved social and material condition of the working classes until the annual tribute of self murder is from 20 to 25 per 100,000.

Death by accident and murder costs the Fatherland annually from 35 to 37 human lives for every 100,000 of the people. This includes, of course, the loss of life by rail, and here there is a showing which more than compensates for the gloomy record of suicide. The exact statistics of railway casualties do not form a part of the published report, but they have been specially prepared and furnished to this consulate by the Imperial health office for the five years from 1897 to 1901 inclusive, as follows:

Persons killed on railroads in Germany, 1897 to 1901.

Year.	Passengers.	Employees.	Total.
1897	98	722	820
1898	72	825	897
1899	79	842	921
1900	119	860	979
1901	75	788	863
Total	443	4,037	4,480

Compare these figures with the 411 people killed and 3,747 injured by railways in the United States during the period of three months from July 1 to September 30, 1904, and it will be seen that in one respect, at least, human life is better protected here than in America.

In respect to malignant diseases, one of the darkest spots in the records of recent years is the steadily growing death rate from cancer. Not less than 35 persons per week—a minimum average of 5 per day—die of cancerous disease within the municipal limits of Berlin.

FRANK H. MASON, *Consul-General.*

BERLIN, GERMANY, *March 18, 1905.*

GERMAN CUTLERY IN 1903 AND 1904.

(From United States Vice-Consul Heldt, Solingen, Germany.)

During the year 1904 Germany exported cutlery of various kinds, exclusive of surgical instruments, to the amount of 206,750 hundredweight,[a] against 176,304 hundredweight in 1903 and 136,644 hundredweight in 1902. The countries to which it was exported are shown by the following table:

Exports of cutlery from Germany, by countries, 1903 and 1904.

Country.	1903.	1904.
	Cwt.	*Cwt.*
Belgium	5,163	5,372
Denmark	2,002	3,641
France	7,741	7,563
Great Britain	3,150	4,807
Italy	3,088	3,858
Netherlands	7,777	7,798
Austria-Hungary	9,422	10,956
Portugal	2,206	2,289
Roumania	1,960	2,695
Russia	25,372	22,535
Switzerland	4,763	4,987
Spain	5,561	4,276
Turkey (Europe)	1,012	3,869
British West Africa	15,299	21,890
German West Africa	4,296	7,990
British India, etc	3,922	4,760
Dutch India	4,199	5,324
Argentina	4,831	6,957
Brazil	5,260	7,961
British America	1,111	2,488
Chile	2,189	2,701
Colombia	2,028	2,978
Mexico	3,573	6,347
United States	12,410	15,030

The imports of knives, scythes, and sickles in 1904 were 5,740 hundredweight, and in 1903, 5,570 hundredweight, of which 403 hundredweight (1904) and 561 hundredweight (1903), came from France and 4,160 hundredweight (1904) and 3,911 hundredweight (1903) came from Austria-Hungary.

Of cutlery, including knives, scissors, and surgical instruments, the imports were 6,054 and 5,804 hundredweight in 1904 and 1903, respectively, distributed chiefly as follows:

Imports of cutlery into Germany, by countries, 1903 and 1904.

Country.	1904.	1903.
	Cwt.	*Cwt.*
France	1,577	1,448
Great Britain	1,200	1,100
United States	1,678	1,824
Austria-Hungary	308	363

VICTOR W. HELDT, *Vice and Deputy Consul.*

SOLINGEN, GERMANY, *March 15, 1905.*

[a] German hundredweight = 110 pounds.

LABOR CONDITIONS IN GERMANY.

(Extract from the annual report of United States Consul Muench, Plauen, Germany, for 1903–4.)

The relations between employers and employees seem more harmonious in Germany than in the United States. Strikes are less frequent and not so far-reaching, and, on the whole, they seem to run a more peaceful course. How far the constantly growing system of laws by which the dangers and uncertainties in the career of the average operative are being reduced may be accountable for such improvement in the mutual relations it were perhaps rash to suggest. It is certain, none the less, that Germany now stands in the front rank of those nations in which the lawmaking powers have striven to ameliorate the condition of the industrial classes by means of systematized investigation and consequent legislation. Aside from the laws on factory inspection and sanitation, infant labor, insurance against sickness and accident, and for a pension in old age, certain industrial communities have now inaugurated a scheme of insurance against nonemployment, and while the success of this experiment has not been pronounced, it is not proposed to abandon the effort. Its chief defects hitherto appeared to consist in a financial deficit and the apparently resulting inducement to idleness.

Measures of legal reform have not been confined, though, to the humanitarian laws mentioned. One of the points prominently contested in the late Crimmitschau textile-workers' strike was the demand of operatives to limit the working time of female operatives to ten hours per day. The failure of that strike has not served to silence the propaganda for such reform. So strong has the movement become and so far diffused outside as well as in the industrial unions that the formulation of a national law to establish a maximum working day of ten hours for females employed in factories is now among the proximate possibilities.

AFRICAN TRADE NOTES.

(From United States Consul Ravndal, Beirut, Syria.)

The Sudan's new outlet.—A sum approaching $1,000,000 has been provided for the creation of a maritime terminus for the Suakin-Atbara Railway at Sheikh el Barghout, a place some 30 miles north of Suakin. This fact is significant as indicating that Sheikh el Barghout is to supersede Suakin as the great Red Sea port of the future. The new port, which will henceforth be designated "Bandar Sudan," has the immense advantage over Suakin of possessing a commodious harbor, easily accessible to ships of deep draft. The construction of the railroad was energetically pushed on during the past year and will, it is

hoped, be completed early in 1906. It is announced by the Sudan Gazette that it will be designated "The Nile-Red Sea Railway."

Austrian mission to Abyssinia.—Not to be outdone by its German neighbors in the matter of commercial enterprise, the Austrian Government is sending, says the Levant Herald, a cruiser, the *Panther*, to the Red Sea with a view to concluding a treaty of commerce with the Ethiopian Empire, in the stead of that concluded sixty and odd years ago with the Emperor Theodore. The expedition, which leaves shortly, will land at Jibuti and go to Adis-Abeba, where the treaty negotiations will be entered into and an Austro-Hungarian consulate established. The head of the expedition is Capt. Ritter von Koehnel, who is especially suited for such a mission, owing to his intimate knowledge of the country and its different dialects. After landing the mission the *Panther* will make a cruise in the Indian Ocean.

Railways in Abyssinia.—It is announced on apparently excellent authority that the French Government, in accord with the cabinet of St. James, will shortly sign an agreement whereby the railways in Abyssinia will be conducted on an international basis. The French Ethiopian Railway is to be extended to Adis-Abeba under international control.

The Uganda Railway.—It appears from official statistics that the total capital authorized for the Uganda Railway was $27,750,000, of which $26,655,000 has been borrowed. With the commencement of through traffic between Mombasa and Lake Victoria an extensive business sprung up, and the traffic moving downward in the year ended March 31, 1904, increased to 35 per cent of the whole—from 21⅞ per cent in 1902–3, and 11¼ in 1901–2. The deficit resulting from working the railway had been estimated at $325,000 for the year ended March 31, 1904, but was really $25,000 less, and in consequence of the greatly improved outlook the deficit of $225,000 originally allowed for the year 1904–5 has already been revised to only $50,000.

Machinery for Rhodesia.—According to African Commerce the use of machinery upon farms in Rhodesia is extending rapidly. Disk plows, disk harrows, and the best horseshoes are found on the majority of farms. Mealie drills are common. Mowing machines are coming into general use, as many as eight or ten being used on a single Matabeleland farm. Hayrakes, shredders, baling presses, winnowers, seeders, potato planters, and potato plows are numerous. Windmills and graders are becoming more common. Among the larger types of machinery may be mentioned the steam plowing outfit on the Premier estate at Umtali, the steam diggers on the Borrowdale estate at Salisbury, and on the Essexville estate at Bulawayo, and a traction plowing engine at Gwelo.

G. BIE RAVNDAL, *Consul.*

BEIRUT, SYRIA, *March 7, 1905.*

PERUVIAN RAILROADS.

(From United States Consul Gottschalk, Callao, Peru.)

On December 13, 1904, in a report on "Railroads of Peru,"[a] I mentioned the Oroya-Huancayo Railroad, which was at the time under survey and which the Government contemplated constructing in the early part of the present year. The contract to build the road was entered into on February 15 by the Government of Peru with a Peruvian corporation—a British syndicate—which has long been prominently connected with railroad and other enterprises here.

The cost per kilometer (0.6214 mile) is to be $14,113, including stations (except that at Oroya), telegraph lines, etc., in fact, everything but the rolling stock. The Peruvian Government agrees to pay to the syndicate a monthly installment not to exceed $29,199. The first of these installments was paid upon signing the contract, and the Peruvian corporation has the privilege of suspending the work of construction in case there is failure to pay any subsequent monthly installment. The road is to be completed by December 31, 1905, and whatever balance remains due to the syndicate will be paid immediately on delivery of the road.

Not less than 75 per cent of the technical and administrative staff employed by the Peruvian corporation on the work shall be Peruvians. Necessary expropriations shall be at the cost of the Peruvian corporation. The latter also obligates itself to keep its camps, stations, etc., in a sanitary condition, to furnish medicines to its employees whenever necessary, and to keep the sanitary authorities at Lima informed weekly as to the hygienic conditions of the camps, etc.

A. L. M. GOTTSCHALK, *Consul.*

CALLAO, PERU, *February 28, 1905.*

FRENCH AND GERMAN ENTERPRISE IN CHINA.[b]

(From United States Commercial Agent Harris, Elbenstock, Germany.)

As many German merchants are found to-day in the great cities in the interior of China as in the treaty ports on the seacoast. In Shanghai alone there are 68 German merchant houses, which are doing 22 per cent of the total business of the port. In Tientsin there are 29 German business houses, which control 45 per cent of the exports and 60 per cent of the imports of the city. Fifty per cent of the imports and

[a] Printed in Daily Consular Reports, No. 2187, February 18, 1905.

[b] The facts in this report are taken from a recent article in the Petit Parisien, entitled "The Future of China."

75 per cent of the exports of Canton, China's greatest city, pass through the hands of German merchants. The efforts of German merchants have not been confined to the land alone. The number of ships flying the German flag seen on the Chinese seas and in the harbors of the treaty ports is ever increasing. Especially is this the case on the inland streams. German companies, backed up by German capital, are exploiting the coal fields of Shantung. It is claimed by experts that the coal of Shantung is superior in heating power to the Japanese coal, and that its use is accompanied with less smoke. This coal is destined to play an important part in the Chinese markets. German capitalists are establishing banks, building docks, factories, mills, and exploiting mines to-day in nearly every part of China.

The best way to checkmate the increasing influence attending German commercial enterprise in China, in the interest of France, says the Petit Parisien, is to "construct a railroad from Tongking to Yunnan, and thence through the heart of China. The commercial activity of German merchants in China should serve as an example and an incentive to French merchants to secure a greater share of the Chinese trade."

ERNEST L. HARRIS, *Commercial Agent.*

EIBENSTOCK, GERMANY, *March 15, 1905.*

FAN TRADE OF HANGCHAU.

(From United States Consul Anderson, Hangchau, China.)

The export of fans of several varieties from the port of Hangchau, practically all of which are of local manufacture, has assumed proportions which merit attention. The value of the exports of fans from the port in 1904, as reported by the customs authorities, is considerably over $500,000 gold, and this probably does not cover more than half of the trade.

The exports of fans from Hangchau during the eight years ended with 1904 were as follows:

Exports of fans from Hangchau, China, in the years 1897 to 1904.

Year.	Paper.		Fancy.	
	Number.	Value.	Number.	Value.
1897	3,225,396			
1898	2,626,913			
1899	3,654,377			
1900	3,719,540	$130,184		
1901	4,596,776	162,852	1,777	$193
1902	5,688,422	219,684	1,881	458
1903	5,993,155	377,569	2,698	331
1904	6,150,922	559,734	5,265	589

While the vast bulk of the fans thus exported are rated as paper fans, most of them are known in foreign markets as fancy goods. The fans above rated as "fancy" are silk creations of more or less beauty and novelty, greatly desired by tourists. The fan trade in Hangchau has come to be one of the most important attractions to visitors, and the fame of the city's products in this line seems to be spreading rapidly, for each succeeding year seems to increase in geometrical proportion the sales of goods to tourists.

While practically all these fans go to Shanghai, where they are controlled by a guild, as is the case with most other Chinese products, a very large number find their way to the United States. Local manufacturers believe that the display of Hangchau fans at the St. Louis Exposition last year will have an immediate effect in stimulating their trade with America.

GEORGE E. ANDERSON, *Consul.*

HANGCHAU, CHINA, *February 11, 1905.*

SCIENTIFIC FERTILIZATION OF SOILS IN GERMANY.

(From United States Consul-General Mason, Berlin, Germany.)

In the city of Darmstadt, not far from the experiment station for agriculture, is a statue of Prof. Justus von Liebig, raised by the people of his native city to the memory of the father of agricultural chemistry, for to Liebig, the tireless investigator of half a century ago in the modest laboratory at Giessen, belongs the unfading renown of having first demonstrated the exact relation of plant life to potash, phosphoric acid, and other elements, and of having turned the attention of his countrymen to the science of fertilization. He was led into this line of study by noticing how many of the great nations of history had risen, passed their zenith of prosperity, and fallen into decline and ruin because their soil had lost its fertility and would no longer feed the dense population of previous years. Greece, Assyria, Carthage, even the Roman Campagna had lapsed, through ignorant, monotonous cultivation, from fertile fields and gardens to deserts, from which scanty, wretched populations could with hard labor wring only a meager and uncertain support. Analyses of these impoverished soils revealed the status of their more or less exhausted elements, and upon this definite basis the resolute scientist laid the foundation of the system that has revolutionized the agriculture of Germany.

As the first step in the synthetic process he demonstrated that barnyard manure, on which most German farmers had for centuries depended wholly as a fertilizing medium, was efficacious only in the degree that it contained phosphoric acid, potash salts, and nitrogen. The increased population of modern times, the enormous waste of

nitrates and other fertilizing elements through the sewage of cities, finally destroyed the equilibrium which nature had originally created. Unless the balance of these elements could be restored by artificial means, the time would come—in most European countries had already come—when the land would no longer feed the swarming millions who inhabited it. The problem was to find artificial means of supplying the nitrogen, phosphoric acid, potash, and lime, each in the exact degree and proportion in which it was naturally wanting or had been exhausted by prolonged cultivation.

It was easily shown that under the previous system of fertilizing, in which a maximum of 10 tons of farmyard manure per acre was applied, there would be a constant deficit in all these elements. For whereas 10 tons of stable manure contain, say, 66 pounds of nitrates, 28 pounds of phosphoric acid, 75 pounds of potash, and 83 pounds of lime, a full normal wheat crop will extract from an acre of land 90 pounds of nitrogen, 38 pounds of phosphoric acid, 63 pounds of potash, and 15 pounds of lime, while a full potato crop would absorb 83 pounds of nitrogen, 37 pounds of phosphoric acid, and 128 pounds of potash. The same was true in varying degrees of other cereals and root crops, so that even with fair liberal manuring the soil was being gradually depleted. How much worse and more imminent was this result when, as in thousands of cases, fields were planted with the same crops and harvested year after year without being fertilized at all.

SOME SOURCES OF ARTIFICIAL FERTILIZERS.

In the search for new supplies of the essential elements it was found that phosphoric acid could be most cheaply and effectively obtained from basic slag or cinder, the refuse of blast furnaces which produce pig iron by the Thomas process, and which, having been pulverized for agricultural use, is known in Germany as "Thomas meal." Experiments with this material proved its perfect adaptation for fertilizing purposes. It not only yields phosphoric acid abundantly, but it gives it up gradually and in close response to the requirements of the nearest plant life. When an exhausted soil has been supplied with Thomas slag in sufficient quantity, the effect is at once apparent and continues year after year as the meal ripens and becomes soluble through the action of rain, frost, and air. Superphosphates are used for the same purpose and also with good results, but for ordinary farming the best modern German practice prefers Thomas meal, because it is cheaper and its effects remain longer and more naturally in the soil. The use of basic slag is in fact one of the most important steps in German agricultural progress. It will help to fully restore more exhausted soils than any other process. The best practice is to put in at once a liberal supply, after which the annual additional dose can be gradually diminished. Professor Wagner of the Darmstadt

Experiment Station, the supreme authority on this subject, says that land liberally fertilized with Thomas meal will yield abundantly any crop for several years, so that formal rotation is unnecessary, and grain and root crops can be planted alternately without pause or resort to grass, clover, or other fallow crops.

For the supply of potash, Germany is endowed beyond any other nation by the vast deposits of potash minerals that underlie the territory of Prussian Saxony, which constitutes the world's one practicable source of those precious materials. For agricultural purposes the principal dependence is upon kainit, a mineral which contains, when pure, about 35 per cent of sulphate of potash. The ordinary commercial grade contains, however, only 24 per cent of potash or even less. It is pulverized, packed in bags or casks, and used raw, either as a top dressing in case of certain crops, or mingled with the soil before planting. The German mines produced, in 1903, 1,557,243 tons of kainit, of which 275,302 tons, or 54 per cent of the entire export, went to the United States. In 1904 the export to our country of kainit and sylvinit rose to 344,693 tons. Considerably more than a million tons are used annually by the farmers of Germany. The official records, which take into account only the percentage of potash expended, show that the consumption of potash salts in German agriculture increased from 51,282 tons in 1892 to the equivalent of 150,000 tons of pure potash in 1903; that is, about trebled in eleven years. From official statistics which have been summarized in a previous report of this series (Monthly Consular Reports, No. 289, October, 1904, p. 107), it appears that the yield of cereals, clover, lucern, and grass varies from year to year in very close relation to the amount of potash fertilizers actually used. When, for instance, the consumption of potash manure salts declined from 64,103 tons (pure potash) in 1894 to 58,974 tons in 1895, there was a corresponding falling off in the yield of all the spring crops planted and harvested that year.

The other indispensable element, nitrogen, is supplied naturally by farmyard manure, which, as already indicated, contains from 6 to 7 pounds of pure nitrate per ton. But as this source of supply is wholly inadequate, and loses entirely the great quantity of nitrogen taken from farming land in various crops, besides the loss through the sewage of densely populated cities, recourse is had to Chile saltpeter or sodium nitrate, obtained by leaching the soil of the rainless districts of Chile and Peru, of which Germany imported direct from Chile 467,129 tons in 1903 and 506,171 tons in 1904, at a cost of from $18,000,000 to $20,000,000 per annum. Chile saltpeter ready for use as a fertilizer sells here for about 18 marks ($4.28) per 100 kilograms (220 pounds), at which price it would be impossible for German farmers to provide all the artificial supply of nitrogen that they require. Here, again, science, or rather practical common sense, came to the rescue and inspired the discovery—which is accredited to a farmer named Schultze,

living at Lupitz, in Lausatia—that certain plants, clover, lucern, peas, beans, lentils, and lupines, collect from the air nitrogen in large quantities, and that by growing and plowing in such crops the land is more refreshed and strengthened than by the application of a large quantity of farmyard manure. This is known as the Schultze-Lupitz method, and is extensively practiced by farmers who can not afford the high cost of saltpeter.

As a further contribution to this part of the subject, efforts have been in progress during the past five years to obtain nitrogen for fertilizing purposes directly from the air by chemical means. That this could be done by passing a current of air over red-hot copper has long been known. The oxygen of the air combines with the hot metal to form oxide of copper, leaving free the nitrogen, which, being taken up by calcium carbide, forms nitrate of lime, a combination of lime, carbon, and nitrogen which has all the essential qualities of a nitrate fertilizer. But as the carbide made the process too expensive for agriculture, a German chemist succeeded in combining the nitrogen gas with pulverized lime and charcoal in an electric furnace, whereby there was produced a new compound carrying 10 to 15 per cent of nitrogen, which experiment has shown to be quite as effective for sustaining plant life, in proportion to its nitrate contents, as Chile saltpeter. Thus far, however, this process, although technically perfect, has not passed far beyond the laboratory stage, and may be regarded as Germany's "anchor to windward" against the inevitable day when the nitrate deposits of South America, as they are now known, will be exhausted.

The fourth essential fertilizing element, lime, is cheap and abundant everywhere in Germany, the one essential function of modern scientific experiment being to teach the farmer when, where, how, and in what quantities it should be applied. Usually it is the last of the primitive elements to be exhausted, and nothing can be more useless or even hurtful than the indiscriminate application of lime to soils where it is not needed; in other words, it is less deficient than potash, nitrogen, and phosphoric acid.

WHAT ARTIFICIAL FERTILIZING HAS DONE FOR GERMANY.

In estimating the value and importance of artificial fertilization to this country, it should be remembered that Germany was not a fertile country. While the valleys of her great rivers, the Oder, Elbe, Weser, and Rhine include many districts of high fertility, there are vast plains of sand and clayey loam that centuries of peasant tillage had left so exhausted that until the system of thorough scientific restoration was invented the crop of each year was definitely measured by the amount of barnyard manure, muck, etc., that the farmer had put into the land.

Inevitably the restoration of such soil to normal fertility is, under the most favorable conditions, an expensive process, justified only by a highly successful result. While the percentages of deficient elements vary more or less, the average requirements for thorough restoration are 800 pounds of basic slag, 500 pounds of kainit, and 150 pounds of nitrate per acre. During the succeeding years the slag application can be reduced to one-half, then to one-quarter, and finally to one-eighth of the original amount, by which time the normal supply of phosphoric acid will have been restored for a long period, since the mineral slag gives up its phosphorus slowly and only to meet a natural immediate demand.

There are in Germany ten experiment stations for agriculture, namely, at Halle, Jena, Darmstadt, Göttingen, Bernburg, Bremen, Posen, Köslin, and at Möckern, near Leipzig, besides about twenty smaller establishments, which have the character of laboratories for the analysis of soils, products, and fertilizing materials, and give the farmers of the neighborhood prompt and exact information as to the special needs of their land and the most effective and economical means of meeting them. The cultivated area of the Empire is approximately 79,000,000 acres, on which there is spent each year about $60,000,000 for artificial manures. The effect of this is to add from seven to ten times that sum to the value of the annual crops and to enable Germany, notwithstanding all disadvantages and the strong modern trend of the rural population toward cities and industrial pursuits, to feed about nine-tenths of her now nearly 60,000,000 people. In many large districts, notably in western and west central Germany, the practice of to-day has reached the standard of high, intensive farming, with the result that many farms which a generation ago could do little more than impoverish and discourage their owners now yield heavy and profitable crops with a uniform certainty which in the old days of ignorant, hit-or-miss husbandry would have been deemed fabulous.

FRANK H. MASON, *Consul-General.*

BERLIN, GERMANY, *March 27, 1905.*

GERMAN COMMERCIAL REVIEW OF 1904.

(From United States Consul-General Guenther, Frankfort, Germany.)

From the recently issued annual report of the Bremen Chamber of Commerce, which comments on the general commerce and business of 1904, I have translated the following extracts. The chamber expresses the hope that the difficulties in negotiating a commercial treaty between Germany and the United States will be overcome, as it is to the interest of both countries to compete in a friendly way instead of adopting a hostile trade policy.

Among other things the report says:

The promotion of our transoceanic commerce is undoubtedly one of the most effectual means of strengthening the financial power of the German people. For that reason the German seaports and German shipping, which are the organs of our export trade, are of great national importance. Their spirit of enterprise is a blessing for the entire German Empire, and anything that impedes their growth is likely to be injurious to our general welfare.

The commercial treaty between Cuba and the United States enables the latter to attract Cuban trade more and more, thus injuring German exportation to that island. The competition of American rice in Cuba has made itself felt in Bremen's rice exports to that market.

Mexico's commerce is advancing most satisfactorily. The United States is very active in Mexican development. It is very desirable for German capital to engage there more vigorously.

The report calls attention to the great prosperity of Argentina and the improvement of Brazil's economic condition, and points to the extension of the railroad system and the industrial development in both of these rich countries. It recommends German capitalists to preserve their influence there and to obtain for German manufacturers a good share of the orders for machinery, material, etc., required for these improvements.

China's trade was satisfactory, as the harvests were good. The construction of the railroads is progressing slowly but steadily, as is the railroad connection with the great commercial emporium Hankau and the rich Yangtze district, where German firms of special importance to Germany's commerce are located. It is urgently necessary for Germans to firmly resist all English attempts to claim the Yangtze district as being a special British sphere of interest. The surrender of German claims to this district would prove an irreparable injury to German commercial interests.

The development of the East Indies in the past year might be termed exceedingly fortunate were it not for the ravages of the plague and the increasing land taxes. The taxes often exceed 60 per cent of the entire income from the products of the soil. The British Government exhibits great interest in the construction of railroads, canals for irrigation purposes, etc. The imports in the last fiscal year exceeded those of the preceding year by 7.6 per cent. Germany follows Great Britain and Belgium as a foreign supply source in East Indian imports.

The economic condition of Australia has been improved by a rich wheat crop, increase in the wool production, and of the exportation of animal products. A plentiful supply of water has also revived the mining industries. The purchasing capacity of the country having been considerably enhanced by these agencies, an increase in Germany's exports to Australia may be expected.

The hope for an improvement of business with South Africa has not been fulfilled. The importation of Chinese coolies was viewed as a means for restoring prosperity, but so far it has not had a perceptible result. It would require 100,000 coolies to fully satisfy the requirements of the mining operations.

The chamber expresses a deep interest in the German colonies in Africa, and speaks at length of their condition, bewailing the heavy losses in German blood and money caused by the insurrection of the natives. The efforts of the German Government to promote the cultivation of cotton in its African colonies, so as to make the European cotton manufacturers less dependent on supplies from the United States, meet the commendation of the chamber. During 1904 the importation of cotton at the port of Bremen was 1,773,501 bales.

Bremen is, next to Hamburg, the greatest shipping point in Germany, and her shipping firms own many important lines of steamships and sailing vessels which run to nearly all coasts that have any commercial importance. Shipbuilding is carried on to a considerable extent by five shipyards at Bremen, which on an average employ about 8,000 workmen.

The chamber submitted to the authorities proposals and schedules for a reduction of the "fees for inspecting imported meat and lard," and recommended the abolition of unequal fees for inspecting fresh American fruits and the substitution of a fixed charge on every barrel or box containing such fruit. It also urged the appointment of professional consuls in place of merchant consuls, as the latter, when certifying invoices of their mercantile competitors derive an undue advantage over these competitors.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *March 2, 1905.*

TRUSTS AND POOL ORGANIZATIONS IN GERMANY.

(Extract from the annual report of United States Consul Muench, Plauen, Germany, for 1903–4.)

Germany has long since joined the nations that have adopted penal laws for the suppression of gambling in options and futures, but the efficiency of these laws is not deemed adequate, and a demand for more forceful legislation is unceasing. The investigation of the character and effect of various trust and pool organizations in Germany, at the hands of a commission, still goes forward, with a tendency to ultimate remedial legislation. At the present time the most interesting move in the direction of curbing the power of such combines is the effort of the Prussian government to acquire controlling interests in coal mines within the borders of the State, presumably with a view of freeing the various coal-consuming State institutions (railways, etc.) from the dictation of a pool which now embraces a great majority of the most productive mines. A temporary setback in the effort to secure control of a particular mine can not be considered as a check to the movement itself.

A scheme to consolidate two of the leading banks of the national capital (Berlin), which developed during the past year, failed through the antagonism of shareholders, and served to demonstrate anew the existence of a pronounced popular feeling in this country against the combination of excessive amounts of capital under single control.

EFFECTS OF THE NEW GERMAN TARIFF.

Under date of March 22, 1905, United States Consul Howard D. Van Sant, of Guelph, Ontario, transmits the following leader from the Guelph Mercury of March 16:

The new German tariff which was calculated to punish United States protectionism can not but hurt Canada and Britain as well, though Great Britain has always kept an open market toward Germany. In some lines that will affect the United States and ourselves the increase is enormous. Thus, the old rate on wheat and rye, which was 3.50 marks per 100 kilograms (83 cents per 220 pounds), is now changed to 7.50 ($1.78); the duty on corn is raised from 1.60 to 5 (37 cents to $1.19); flour, 7.30 to 18.75 ($1.74 to $4.46); lard, 10 to 12.50 ($2.38 to $2.98); beef, fresh or frozen, 15 to 45 ($3.57 to $10); beef, simply prepared, 17 to 60 ($4.04 to $14.28); apples and prunes, dried, 4 to 10 (95 cents to $2.38); hides, 18 to 30 ($4.28 to $7.14); shoes, from 50 to 180 ($11.90 to $19.04), in certain sizes.

When it is considered that the exports of wheat from the United States to Germany increased between 1894 and 1904 by 400 per cent; corn, 36; rye, 150; flour, 69; lard, 75; beef, 25; fruits, 3,500; hides, 29; leather and shoes, 300; and wood, 80 per cent, and that the total exports in 1904 of these goods exceeded in value $42,000,000, it will be seen what a blow Germany has tried to strike at the United States. But greatly as this tariff is expected to injure the United States and Great Britain, the country that it will injure most is Germany herself. Canada took a hand in the high taxing business against Germany by imposing a surtax on German goods, and now she is getting back what she has sown. It is doubtful whether the German manufacturing population can stand these imposts; certainly they must lessen the power of German manufacturers to compete in outside markets.

GRAPE EXPORTS OF ALMERIA, SPAIN.

Under date of March 6, 1905, United States Vice-Consul Maddin Summers, of Madrid, Spain, transmits the following translation of an article published in the Correspondencia de España, relating to the crisis in the grape industry of southern Spain:

The year 1904 was a record one in the exportation of grapes from Almería, which shipped more than 1,900,000 barrels of the fruit to England, the United States, and Germany. At first sight it appears that this should be a cause of rejoicing for the producers of that unfortunate Spanish province, but such is not the case. The exportation is rather a misfortune, and is resulting in the ruin of Almería.

But to understand the situation I have had to go to London to find the cause. What happens here is distressing, and the worst of it is that it is a condition difficult to remedy. The beautiful Almerian grapes do not bring enough to cover expenses. The exportation results in a loss, and the 1,900,000 barrels of grapes exported, instead of signifying prosperity and happiness, is a sign of ruin, lack of organization, and pains without hope.

What were the net proceeds on, say, a small lot of 20 arrobas (507 pounds) of Almerian grapes shipped last year to English markets?

The grower must pay for the 10 barrels, the sawdust, and the packing of the fruit on an average of 3.50 pesetas (50 cents)[a] per barrel, or 35 pesetas ($4.90). The growers in Almeria itself will not have to pay transportation charges to the port of embarkation, but they are not numerous and the greater number outside must pay. When the railroad does not pass near the vineyard the grower must pay not only railroad freight, but for carrying the fruit in wagons to the railroad station. Freight charges of 1 peseta (14 cents) a barrel from Canjayar to Almeria, and 50 centimes (7 cents) from Pechina must be paid. Suppose, then, we take as an average 50 centimes (7 cents), and we have 5 pesetas (70 cents) more to add to the 35 pesetas ($4.90), the cost of packing. Loading the grapes at the port costs 10 centimes (1.4 cents) a barrel. On shipboard the 20 arrobas (507 pounds) will have cost the producer 41 pesetas ($5.74), not counting the rent of the land, the contributions he must pay, and the costs of fertilization and of working the vineyards.

What will the grapes bring in England? The price depends on the supply and demand. The agent in London is advised that the shipment has arrived and in turn gives notice to a broker. The grapes find their way to the Pudding Lane Market, where they are sold at public auction, either to the fruit sellers or to speculators who traffic with retail dealers. The average price of the grapes in 1904 in England has been 5 shillings ($1.22) a barrel. The 10 barrels, therefore, bring 50 shillings ($12.16), but as one of the barrels must be opened in the market as a sample, it brings but 2s. 6d. (61 cents), which, added to the 45 shillings of the other 9 barrels, makes £2 7s. 6d. ($11.55).

From this must be deducted: Freight from Almeria to London, embarkation dues collected by the British Government for all merchandise entering England, 10 per cent reckoned as lost by decay, 9s. 6d. ($2.31); maritime and fire insurance, dock and city charges, unloading, cartage, wharfage, warehousing, telegraphing, and loading agent, 3s. 4d. (81 cents); expenses of selling, repairing, catalogues, delivery, and warehousing, 8s. 4d. ($2.03); brokers, agents, and guaranty, 2s. 9d. (67 cents); total expenses, £1 3s. 11d. ($5.82), which, deducted from the £2 7s. 5d. ($11.53), which the sale produced, leaves a balance of £1 3s. 6d. ($5.71). Reduce this to our money and it will be seen that the grapes have produced the grower 41 pesetas to pay for packing, freight, and loading. The result is that the Almerian grapes exported to England have paid all the profits to shippers, insurance companies, loaders, unloaders, port dues, warehouses, cablegrams, printers, public treasury, and in fact to everyone save to the

[a] The writer estimates the peseta at about 14 cents.

poor grower, who received as his share of the profits only 50 centimes (7 cents) for the 20 arrobas (507 pounds), with which sum he must pay the rent of the land, the contributions, working the fields, etc.

This list of expenses I have taken from the figures of prominent London brokers. Nor must it be thought that the average price of 5 shillings ($1.22) a barrel is too small. There is a merchant in Almeria who made a large shipment of grapes which were sold at 4 shillings (97 cents) a barrel. Many cases can also be cited in which the proceeds of the sale of the grapes were not sufficient to pay the freight, insurance, commission, brokerage, etc., on account of the fruit not arriving in good state.

On the other hand, the trade with the United States has brought favorable results, owing to the fact that the California crops were a failure on account of the cold season. But we can not always count upon the North American markets, and the very fact that the crop will be saved by any such contingency gives an idea of the great instability of the principal Almerian industry.

WOOL EXPORTS FROM BRITISH POSSESSIONS.

(From United States Consul-General Bray, Melbourne, Victoria.)

The following statement shows the shipments of wool from possessions of Great Britain (Australasia and South Africa) to Europe and America in specified years from 1860 to 1904:

Exports of wool to Europe and America from Australasia and South Africa in specified years from 1860 to 1904.

Year.	Australasia.	South Africa.	Total.	
			Quantity.	Value.
	Bales.	*Bales.*	*Bales.*	*Dollars.*
1860	187,000	79,000	266,000	34,250,000
1870	546,000	152,000	698,000	59,455,000
1880	869,000	219,000	1,088,000	110,150,000
1890	1,411,000	288,000	1,699,000	125,300,000
1898	1,703,000	279,000	1,982,000	111,400,000
1899	1,641,000	267,000	1,908,000	138,330,000
1900	1,456,000	140,000	1,596,000	107,730,000
1901	1,745,000	217,000	1,962,000	103,005,000
1902	1,699,000	234,000	1,933,000	113,565,000
1903	1,451,000	234,000	1,685,000	113,735,000
1904	1,371,000	201,000	1,572,000	113,970,000

The highest average price per bale was $129, in 1872; the lowest $51, in 1901. The exports from Australasia were largest in 1895, when 2,001,000 bales were shipped, and the value of all wool exports reached its highest point in 1899, when the total was $138,330,000. Compared with the 1895 record the exports of Australasian wool to Europe in 1904 showed a decline of 630,000 bales.

JOHN P. BRAY, *Consul-General.*

MELBOURNE, VICTORIA, *February 16, 1905.*

DEVELOPMENT OF BOHEMIA.

(*From United States Commercial Agent Harris, Eibenstock, Germany.*)

The following circular issued by the central committee for the furtherance of industrial enterprises in the Bohemian Erzgebirge, in Prague, shows to what extent the Bohemians, at least, hope to profit by the recent commercial treaty which Germany has negotiated with Austria-Hungary:

When the commercial and tariff treaty just concluded between Germany and Austria goes into effect on January 1, 1906, the chances are that a large number of German manufacturers will establish branch factories in this country. There is no question but what that part of the Bohemian Erzgebirge which extends along the borders of Saxony present favorable opportunities for industrial enterprises. The excellent railway communications which afford cheap and rapid transit, the unused water power of the mountain streams, and a population which could soon be schooled to the labor of any new industry, are factors which will soon attract the attention of foreign capitalists.

The owners of paper, pasteboard, and pulp mills here in the Saxon Erzgebirge have for many years past been casting longing eyes toward the Bohemian valleys and forests. Saxon manufacturers have long been awake to the opportunities which await them across the boundary line. The day when the latent industrial resources of Bohemia will be developed is not far distant.

ERNEST L. HARRIS, *Commercial Agent.*

EIBENSTOCK, GERMANY, *March 7, 1905.*

WINDMILLS FOR IRRIGATION IN INDIA.

A writer in the Madras Mail criticises American windmills by pointing out their unsuitability for use in the East, particularly in India. The purpose of the essay is not hostile, for the writer points out in the following paragraphs a way to so improve the American windmill as to make it marketable and successful in India:

Our limited experience in India and the results of my inquiries in America are in complete accord. The cheap American windmill outfit is not suited for irrigation work, and a stronger, stiffer design is absolutely necessary if it is to find favor in this country. The manufacturers should aim at producing a wind engine with a wheel about 16 feet in diameter mounted on a tower 40 feet high, which is sufficient for most places. The wheel should be geared down to the pump shaft in the ratio of 3 to 1, and the pump should be from 10 to 20 inches in diameter, depending on the lift, and fitted with mechanism, yet to be invented, which would enable the length of the stroke to be varied automatically with the velocity of the wind. The design should provide for utilizing the full force of the wind up to 30 miles per hour,

but beyond this velocity the governor should come into play and as quickly as possible throw the wheel out of the wind. For such a wind engine and pump erected over a well it would be practicable to pay from 1,500 to 2,000 rupees, or from £100 to £130. The pump is a comparatively simple matter, but it requires careful design and must be well made so that it will be but little likely to get out of order. Bucket leathers are probably the source of most trouble, but I am informed chrome leather makes a much more durable material for such fittings than the ordinary bark-tanned leather which is now universally employed. If this be so, it is an important improvement and should be adopted. In any case it should be possible to remove all the valves from the pump and replace them with certainty, even when the pump barrel is deeply submerged in the water. The wind-engine pump invariably does all the work on the upstroke, and to obtain a fairly uniform resistance to the turning moment of the crank shaft the weight of the pump rod and bucket should be more than counterbalanced, so that on the downstroke work is done which is restored during the upstroke. This can be effected by floating the pump rod in the delivery tube or by the use of counterbalance weights. By suitably proportioning the section of the pump rod to the section of the delivery pipe a very satisfactory distribution of the work can be obtained with a fairly uniform delivery of the water.

For irrigation it is absolutely necessary that the pump should deliver the water into a storage reservoir which can be most cheaply made with earthen banks, provided these can be made water-tight. The banks should be about 15 feet wide at the base, 2 feet wide at the top, and 4 feet 6 inches high. The reservoir should be square in plan, with sides not less than 60 feet long on the inside of the banks at their base, and it should be filled to a depth of 3 feet, so as to supply water for about 2 acres at a time. The reservoir should be provided with a small outlet to the well at the 3-foot level to prevent overfilling, and with a fairly large masonry sluice, so that its contents may be discharged rapidly, as otherwise there will be a great waste of water if it is run onto the land in a small stream. In America, and especially in California, much greater attention is paid to this point than is usual in India, except in gardens where masonry conduits are in common use. If the practice were extended to fields under well irrigation the greater duty obtained from the water would amply repay the extra cost.

To conclude, windmills have not yet had a fair trial in India. Some have been set up in districts where there was insufficient wind, and all have been too lightly built for the heavy work they have been called upon to perform where the wind was strong enough. In America better results have been obtained, but even there the present cheap type of mill is recognized as unsuitable, and manufacturers are considering whether the demand for an irrigation mill is sufficient to make it worth their while to meet it. There is a wide field in India open for the profitable employment of windmills in lifting water for irrigation.

EXTORTIONATE PASSENGER TARIFFS IN CHINA.

(From United States Consul Anderson, Hangchau, China.)

There has been considerable complaint in the past year that the charges of the steam launch companies serving the public in the transportation of men and goods between Shanghai and Hangchau and Hangchau and Suchau are inordinately high. Apparently there is the usual effect of high transportation rates, for the amount of goods being shipped by slow native junks is constantly increasing, and the number of passengers traveling by barges attached to launches or by house boats towed by launches is decreasing.

In the customs year just closed the steam launch companies in Hangchau carried 363 foreign and 80,161 native passengers to Shanghai, and 75 foreigners and 38,682 natives to Suchau, a total of 438 foreigners and 118,843 natives. The total number of passengers carried from Hangchau to Shanghai and Suchau and from Shanghai to Suchau in 1904 was as follows: Foreigners, 866; natives, 237,565, against 1,040 foreigners and 250,709 natives in 1902, a decrease of 174 foreigners and 13,144 natives.

Up to 1902 the traffic of these launch companies showed a steady gain from the time of their beginning business. Early in February, 1903, however, the three companies—the Tai Sun Chong, the Taito, and the China Merchants—combined and raised rates. The passenger fares were raised from $1.40, 25 cents, and 15 cents, gold, for first, second, and third classes of native passenger traffic to $2.40, 75 cents, and 40 cents, respectively. While these prices might seem low in the United States, they are really high for any place, considering the accommodations. The natives are simply herded on top of a great barge or given bare bunks in stuffy cabins, and an enormous number of them can be and are carried by one of the barges. It costs a foreigner $5 gold for a stuffy cabin by canal from Hangchau to Shanghai, a distance of 150 miles, or from Hangchau to Suchau, 100 miles. He can be fairly comfortable with his own things in a house boat towed for about $8 gold, which is at the rate of about 6 cents gold per mile.

The increase in freight rates at the same time was also radical. On tea the rate was increased from $1.45 to $1.80 per ton; on silk piece goods from $1 to $1.70 per picul (133 pounds); on raw silk from 60 cents to $1.20 per picul, and on general merchandise from 10 cents to 16 cents per picul. In November, 1904, the rate on coal was raised from $1 to $1.50 gold per ton, coal being shipped in bags at such rates. For short trips, therefore, people are turning to night travel by native boats, and for freight they are looking to native junks and slow speed.

These high rates for transportation are already having a marked

effect upon some lines of trade, and before long will have still greater effects. The situation is important from a railroad standpoint. Agitation for railroad facilities is rife among the influential classes of this province, and while the disposition of the provincial government is to turn over to Chinese interests such franchises as are granted, there is considerable impatience over the continued postponement of these improvements; hence it is possible that a reaction will soon set in which will greatly favor foreign capital.

GEORGE E. ANDERSON, *Consul.*

HANGCHAU, CHINA *February 14, 1905.*

DEVELOPMENT OF MESOPOTAMIA.

(From United States Consul Ravndal, Beirut, Syria.)

A special commission has started for Mesopotamia with a view to examine on the spot recently discovered oil fields. It is composed of a representative of the Deutsche Bank and three engineers. At present the alleged petroleum fields belong to the Sultan, or what is called the civil list, which will pay half of the preliminary expenses, and eventually receive 12 per cent of the net profits of exploitation.

Negotiations have now been resumed between the Anatolian Railway Company and the Porte concerning the construction of the second section of the Bagdad Railway, covering some distance beyond Eregli, and including the crossing of the Taurus Mountains.

Sir William Willcocks, formerly director-general of reservoirs in Egypt, who in November last, under a firman granted by the Porte, proceeded to Mesopotamia in order to examine into the ancient and present irrigation systems on the Tigris and the Euphrates, has returned to Cairo and given out the following statement of the conclusions he arrived at:

The Tigris and Euphrates have apparently enough water to allow of the perennial irrigation of 5,000,000 acres and of keeping navigation open to the sea. The hydraulic problems are not so hard as those on the Nile, but comprehensive projects must be taken up to secure the canals against obliteration by silt, which has often ruined Babylonia. I saw the Tigris in places only 140 feet wide and 6 feet deep, and the Euphrates 40 feet wide and 3 feet deep, though I measured the water entering Babylonia and found it 50,000 cubic feet per second for the Tigris, and 25,000 cubic feet per second for the Euphrates. All the existing canals in the Bagdad pashalic combined were discharging 500 cubic feet per second. The first work needed would be an irrigation and navigation canal some 150 feet wide, joining the Tigris and the Euphrates at Bagdad. This would be easy, as the Euphrates is about 15 feet higher than the Tigris.

The Hindia barrage on the Euphrates has so far been a failure, because they have made the same mistake as was made on the Cairo

barrage. I tried to persuade the engineer (a son of Mougel Bey, who built the Cairo barrage) to act as I acted in Egypt, but he considered the risk too great.

Some 100 specimens of soils and building materials and water have been collected by me. When the agricultural experts and chemists have sent in their reports I shall be in a position to frame estimates.

G. BIE RAVNDAL, *Consul.*

BEIRUT, SYRIA, *March 5, 1905.*

BUTTER FROM SOUTH AMERICA FOR ENGLAND.

(From United States Consul Covert, Lyon, France.)

The Journal Officiel of February 20, 1905, publishes the statement that an important butter business is opening between the River Plata and Great Britain. I translate:

A new commerce is on the point of being developed between Argentina and Uruguay and England, that of butter shipped from the fertile plains of the River Plata, thanks to a perfected system of cold-air chambers (chambres refrigerantes) installed on board the fast mail steamers. The steamer *Nile* has just unloaded 7,516 cases of fresh and salted butter, containing 3,758 hundredweight, which was sampled and found to be of an excellent quality. When unloaded the fresh butter was at a temperature of 33° to 38° F., while the salt butter was colder—generally 32° and 34°. The stock raisers of the Plata are constantly improving their stock by introducing the best breeds from England. The butter dealers in England have reason to think seriously of this new competition in their business.

JOHN C. COVERT, *Consul.*

LYON, FRANCE, *March 17, 1905.*

FOREIGN INVESTMENTS AND INVESTMENTS ABROAD.

(From United States Consul Haynes, Rouen, France.)

Le Rentier, Paris, recently contained a series of articles on "Foreign Investments and Investments Abroad," in which Mr. Neymarck, the author, than whom perhaps no one in France is better posted in finance, shows his great concern for the small savings of his countrymen. Certainly no nation is more economical than France, no country has so many stockings hoarding money, and it is a patriotic zeal for the safety of these hard-earned savings that prompts Mr. Neymarck to caution the owners. Such cautions are needed in a country that has originated some of the greatest conceptions of modern times only to the profiting of others—the Suez and Panama canals, for examples.

He first notes the difference between "foreign investments" and "investments abroad," by explaining that the former are foreign stocks, etc., negotiable in France instead of abroad, and placed upon the French market by French banks. These investments, he says, may be good or bad, may or may not present serious guaranties, but a certain estimate can be formed of them by an examination of the documents furnished by the houses in France recommending them. If such stocks, or foreign values, are admitted upon the French bourses the stockholders' syndicate publishes the number of shares issued; the regulations of sale; the dates when the coupons are paid; when the drawings take place, and the names of the houses dealing in them. Moreover, foreign securities, whether State or private, to be negotiated or circulated in France must be in accord with the French fiscal rules. Of course, Mr. Neymarck is careful to be understood that the different measures taken by the States, or companies, issuing and introducing foreign securities in France are by no means a guaranty of the security and solvability of the borrowers, but they give the investor in such securities the opportunity to follow intelligently the course of the investment.

On the other hand, "investments abroad," says Mr. Neymarck, "are investments of stock negotiated solely abroad, and concerning which no information is obtainable except from abroad." He then adds, very seriously, "Our French savers should note well this difference, for at present a veritable storm of prospectuses, circulars, and letters is deluging all France, recommending investments in securities, stocks, bonds, and shares of Germany, Switzerland, Austria, Belgium, Netherlands, America, etc., without mentioning the so-called 'gold mines,' sorry papers which have already caused losses of many hundred millions of French savings and are likely to cause the loss of many more."

Attention is called to the fact that the houses soliciting the French to invest are honorable and merit credit, thus making the danger greater. "Foreign bankers believe, and rightly, that French capitalists are limited in their home investments, and further," remarks Mr. Neymarck, "they believe that many of our capitalists, frightened by politics, have only a very limited confidence in French investments."

French lack of confidence in home securities is substantiated by the figures given in an annual report from this consulate in 1902. During that year the minister of foreign affairs addressed to the French diplomatic and consular officers a circular asking very minutely as to the amount of French capital invested in real estate, agricultural interests, banks, maritime and river navigation enterprises, mines, railroads, etc. From the reports in answer to that circular it was found that France's foreign investments in the five parts of the world amount to about 30,000,000,000 francs ($5,790,000,000), a figure, by a singular

coincidence, equaling the country's debt. Of this amount, Europe naturally has the major part—Russia and Spain first; England, Austria, Turkey, Belgium, and Roumania following in order. In Africa the greatest amounts are invested in Egypt and the Transvaal; in Asia, in China and Asiatic Turkey; in America, in the United States, Mexico, Argentina, and Colombia. The totals are as follows: Europe, 21,000,000,000 francs ($4,053,000,000); Asia, 1,121,000,000 francs ($216,353,000); Africa, 3,693,000,000 francs ($712,749,000); North America, 1,058,000,000 francs ($204,194,000); Central America, 290,000,000 francs ($55,970,000); South America, 2,624,000,000 francs ($506,432,000); and Oceania, 57,000,000 francs ($11,001,000). These figures give a grand total of 29,843,000,000 francs ($5,759,699,000), which is still not the total amount, as the officials making the reports left out all figures they could not verify.

Such an outflow of capital is enough to alarm French financiers, and this is not the first time that Mr. Neymarck has attempted to stem the flood.

GERMAN SECURITIES.

He first discusses German securities and cites the Deutsche Bank, an establishment which has a credit of the first order, with a capital and reserves amounting to over $6,500,000. This bank sends to France circulars recommending German 3 and 3.5 percents, Prussian 3 and 3.5 percents, Hesse and Saxon 3s, divers communal and provincial stock, industrial, railroad, and bank stock, and foreign stock, such as those of the 4 per cent Bagdad Railroad, series 1; 4 per cent Ottoman, 1903, Fisheries; Port of Haidar-Pacha 5s, etc.

"Admitting," asks Mr. Neymarck, "that all the values are of the first order, as the Deutsche Bank affirms, are they suitable for French investment?"

For small French savings the question is answered decidedly in the negative. Such investments can only be profitable to the "professional," that is, to one who knows all the ins and outs of the particular market in which the investment is made; where and how the shares are negotiated; in what money the coupons are paid, whether fixed or variable; what legislation governs the borrowing societies; what privileges are possessed by the owners of the stock; in what manner the fluctuations of the market should be followed, etc. The knowledge of such necessities for safe investment is sufficiently difficult to obtain in home securities, not to mention foreign ones.

AMERICAN RAILROAD STOCK.

To us the most important part of Mr. Neymarck's editorial is that relating to American railroad stock. He says that few values are more fluctuating; that the companies are exposed to the dangers and advan-

tages of competition, to the agreements between rival lines, to political influence, to speculation, and as a result such stock is most unsuitable for French small savings.

To prove that the value of American railroad stock varies with an extraordinary rapidity, he gives the following table:

Fluctuations in values of American railway stocks (as given by Mr. Neymarck).

Company.	Minimum, 1901–2.	End of July, before crisis of 1902.	August 5, 1902, during crisis.	Present value.
Atchison	98.875	65.125	57	90
Baltimore and Ohio	121.5	84	80	106
Milwaukee	201	144	135.125	182
Denver	55.25	26.375	20.5	33
Erie	46.125	31.125	23.25	42
Illinois	177.75	130	126.25	160
New York Central	177.25	117.5	116.5	152
Louisville	164.125	109	99.25	143
Southern Pacific	83.125	46.25	39.875	69
Southern	42.5	22.75	17.125	35
Union Pacific	133.125	78.875	66.75	126

He then makes these fluctuations more striking by comparing them to the quotations of 1893:

Quotations of American railway stocks in 1893.

Company.	Quotations.	Date.
Atchison	10	Dec. 29, 1893
Milwaukee	100	July 26, 1893
Denver	8.25	July 13, 1893
Illinois	86	July 18, 1893
New York Central	92	July 26, 1893
Louisville	43.375	Oct. 10, 1893
Union Pacific	15.25	July 15, 1893

The conclusion of Mr. Neymarck is that the fluctuations are so varied that it is impossible to be prepared for them. He mentions that from 1872 to 1876 as many as 176 companies declared bankruptcy; from 1876 to 1886 there were 373 lines, representing 36,487 miles, sold by the courts; from 1892 to 1896, 55,923 miles, representing $3,088,000,000, went bankrupt, and in 1897, 42 companies, with a capital of $500,000,000, were affected. The reconstruction of the Norfolk and Western was compelled in 1896, after having in 1881 succeeded to the Atlantic, Ohio and Mississippi. The Chesapeake and Ohio succeeded to the Virginia Central, which failed in 1878 and 1888. The Baltimore and Ohio was, in 1896, in the hands of a syndicate.

"Many companies," says Mr. Neymarck, "reputed to-day among the best, have had recourse to singular expedients to form or increase their capital. The capital of one of them has been established solely by the sale of bonds; another company gave a share to whoever bought two bonds, and paid its dividends in bonds. Without doubt the situation has changed, but such proceedings could easily begin again."

AMERICAN RAILROAD BONDS.

"Do American railroad bonds present advantages to be considered along with French bonds," asks Mr. Neymarck. He answers as follows:

Certainly not. It is true the debt of American railroads is not excessive. Many of the great companies, as the Chicago-Milwaukee and the New York Central, possess a capital stock equal to that of the bonds issued, but this situation seems inclined to change. Last year, notably, divers companies floated nearly $580,000,000 worth of bonds, and none have been reimbursed. One can understand that fifteen or twenty years ago, when stocks as well as bonds yielded 5, 6, and 7 per cent, and were negotiated at a 20, 25, 30, and 40 per cent better market than to-day, investors could redeem their holdings and diminish their risks with the excess of the normal revenue received. To-day it is different. These divers bonds yield hardly more than 3.5, 3.75, and 4 per cent. Many of them sell above par, thus diminishing by so much the net revenue.

The disadvantages and risks of these investments are numerous:

1. It is difficult to obtain information as to the exact value of them.
2. The value depends upon the London or New York market.
3. The coupons are very great, $1,000 per bond.
4. The reimbursement of these bonds is not done, as are those of French and most foreign railways, by annual or semiannual drawings. It is done only once—at the expiration of the company. It is not rare to find bonds to be reimbursed in 95, 100, 150, and even 456 years. For example, the 4 per cent Atchison-Topeka, quoted at 104 and yielding 3.875, are to be refunded in 1995, or 90 years; the 4 per cent of the West Shore, quoted at about 108, are to be refunded in 2361, or 456 years; and so on with others.
5. When the time for redemption arrives where will the possessors of the titles be?
6. To obtain one-half or three-fourths per cent a year is it prudent to invest in bonds whose redemption is so far in the future? Are not the safe bonds of our great French lines, which yield about 3.25 per cent, giving a premium of 50 francs ($9.65) if 3s and 95 francs ($18.335) if 2.5s, and which can be negotiated with the greatest ease, and on which, if one does not wish to sell, the banks will advance 50, 60, and 75 per cent of their value—are not these bonds a better investment?
7. We believe anyone should be rich to invest in the luxury of American railroad stocks and bonds. Such investment is not suited to the modest, tranquil French savings. It should be noted that our great French insurance companies, which make such infinite varieties of foreign investments, possess no American railway stock or bonds.
8. It is true that many American insurance companies possess them, but these companies are au courant of all events which could influence the course of the market, and can more easily and more quickly adapt themselves to conditions than the modest, quiet French rentier.
9. In our opinion French savings could with any reason be invested in such values only when they are presented by the large banking houses and financial establishments of France. In this case the American companies would have to make very exacting rules with the French fisc; they would need a responsible representative to assure

investors. And in the second place, if these values were quoted upon the Paris bourse and negotiable upon the official market, the coupons would necessarily have to be paid in France and reimbursements made according to European usages, because the French public would never become habituated to a redemption 50, 75, or 100 years in the future. If reforms of this kind could be obtained the inconveniences and risks of these values would disappear.

Mr. Neymarck next treats Swiss securities in much the same manner as those of American railroads in warning French investors against them. Following, he speaks of bonds of foreign cities, Munich, Budapest, Copenhagen, Amsterdam, Stockholm, St. Petersburg, Moscow, and others. "These," he says, "are serious and merit confidence, but modest French savers should not invest in such to the neglect of old French securities, such as departmental, city, and railroad bonds." Treasury bonds of foreign States and foreign bank securities are also, in the opinion of Mr. Neymarck, unwise investments.

The conclusion of the matter is: "Good French securities under whatever influence, political, economic, financial, interior or exterior, will undergo only a slight depreciation, and in case of serious events it is more than probable that all securities of whatever sort will be affected."

THORNWELL HAYNES, *Consul.*

ROUEN, FRANCE, *March 23, 1905.*

STOCK RAISING IN CENTRAL CHINA.

(*From United States Vice-Consul Cloud, Hangchau, China.*)

It is often said of the Chinese that they are the most economical people in the world and that very little in China ever goes to waste. This is undoubtedly true in many ways, but in some particulars they have utterly failed to utilize the primary gifts of nature after several millenniums of so-called civilization.

They know well enough the value of the products of the sea, the farm, and the orchard, and no people come nearer appropriating to their daily uses all the products of these sources of subsistence. Scarcely any obtainable form of sea life, be it animal or vegetable, is allowed to go to waste. The soil is pushed to its limit of production and its crops are cared for and jealously guarded as if they were so many grains of gold. Up to the present time, however, the Chinese seem to have had little or no appreciation of the economic value of the vast areas of their verdant hill and mountain regions other than to use the scrubby trees as lumber or the brushwood as fuel. Apparently the idea of utilizing these vast areas of pasturage for grazing cattle, sheep, or horses has never occurred to them, or if it has, they have never put it into execution.

In this province (Chekiang) alone there are thousands of acres of hill land covered over the year round with a luxuriant growth of nutritious grasses, enough to feed and fatten almost countless cattle and sheep. Yet all this vast storehouse of wealth has been allowed to go to waste since the early days of the race. The fact that these hills and valleys abound in many varieties of deer, wild pig, and various other wild animals is proof of the nutritious qualities of the flora of the region.

It is true that when the populace gave heed to the teachings of Buddha, that to eat meat of any kind was sinful, there was not much incentive to the raising of cattle or sheep. But those days have largely passed away. At the present time almost all classes of Chinese eat meat whenever they can get it. Little attention is given to stock raising of any kind, and the meat supply is painfully inadequate; so much so, indeed, that the price of meats is high enough to render meat eating prohibitive to all but the well-to-do classes.

Pork is the mainstay of the Chinese meat diet when the people can afford it, and pork retails in Hangchau at 18 cents Mexican (9 cents gold) a pound, with a rapidly decreasing supply. When pork is not to be had mutton is eaten, for which the purchasers have to pay 13 cents Mexican (6½ cents gold) a pound. And when a Chinese can get neither pork nor mutton he eats beef, for which he must pay 10 cents Mexican (5 cents gold) a pound. It is only in recent years that the Chinese would eat beef in any form, holding that as the ox was a beast of burden it was sacred and must not be slain. The steady increase in the price of pork has had a tendency to change his views regarding the sacredness of the ox. Each year the number of beefeaters grows in a rapidly increasing ratio. Yet the supply of beef, like that of pork and mutton, is on the decrease, with a corresponding increase in the price.

As compared with home prices the retail prices of meats in Hangchau are very low, but it must be remembered that the purchasing power of the average individual in China is about three twenty-fifths of the average American's purchasing power. So that while these prices seem very low to us, they are, nevertheless, high enough to prohibit the great majority of people from eating meats of any kind more than two or three times a year.

This state of affairs might be remedied very easily if the farmers would give a little care and attention to the breeding and raising of meat-producing animals. The climate is mild and most favorable and the pasturage is bountiful and accessible. The Chinese farmer's notion of a "herd," however, is to have three or four head of water buffaloes, each tied to the end of a rope, with the same number of small boys caring for them. If the sun is not too hot or the wind too cold the animals usually obtain a fairly good livelihood, but no thought or attention is given to the breeding of the buffalo or the cattle for the purpose of developing a better breed of animals.

To date but desultory attempts at importing foreign cattle into China have been made, yet these attempts have been attended with most satisfactory results wherever they have been made. The German colony in Shantung has imported a number of heifers into that region, and farmers who are giving the matter serious attention are realizing most handsomely on their venture. Indeed, their profits are much greater than they would be on the same amount of labor and capital employed at home.

There is an excellent opportunity for several enterprising stock growers and dairymen to establish a most profitable business in the fertile and ideal grazing region adjoining Shanghai, the growing foreign metropolis. The stock raiser would soon find a growing market for his breeders and meat cattle, while the dairyman would find an eager demand for all of his dairy products.

FREDERICK D. CLOUD, *Vice-Consul in Charge.*

HANGCHAU, CHINA, *February 25, 1905.*

BUSINESS DIFFICULTIES IN CHINA.

(From United States Consul Anderson, Amoy, China.)

The following excerpt from the Swatow correspondence of the North China Daily News so well reviews some of the business difficulties of both natives and foreigners in Chinese ports that it merits very wide consideration:

A CHINESE CHARACTERISTIC EXPLAINED.

What influences are responsible for the presence of the business faculty in a Chinese? Heredity has sometimes a share, as anyone must confess who watches a baby Celestial crumple his palm and hold the slippery cash for counting exactly as his father did before him. But the stress of business methods, even in a remote village, is so severe that no one could endure it and emerge without faculties sharpened to the last degree and a capacity for dealing successfully with any business problem, however complicated. Take a case at random: A villager in buying has to reckon with an ideal dollar of 0.70 of a tael and an actual dollar varying from 0.728, or even 0.73, to 0.68, if they are intact, and to much lighter weight if the former owner has extracted from them the material for an earring or finger ring. In dealing with subsidiary coins he must remember where and when the dollar exchanges for 10 10-cent pieces plus 15 cash, and when for 11 of these pieces. He must also carry in his mind that a 10-cent piece is worth 120 cash when he is buying fish, 105 when he wants oranges, 115 for pork, and only 97 good cash if he comes down to the port. His strings of cash, too, will vary in number according to the proportion of spurious coins inserted in a nominal hundred. He must keep three balances in his house for production according as he is buying hay, or pork, or cakes, and if he is engaged in business he

will buy on one balance and sell on another. He will measure capacity by three different parts, A, B, and C, in which A is 1.6 of B and B is 1.2 of C. He will also have three foot rules, as he is dealing with wood, or cloth, or coffins. And the acreage of his field will vary with the distance at which it is customary to plant the cuttings of his sweet-potato vine. After he has mastered the intricacies of these standards he will find himself still a novice if he should go to the nearest market place without a knowledge of its standards, and so on for an indefinite number of other places at which he must buy and sell. To be able to conduct business in such circumstances argues an education which must leave its mark on the character, transmissible, too, if such acquired characteristics are transmissible.

In this connection it is to be said that while China is under pledge in treaties to establish a modern system of currency there is not only no immediate prospect of this being done, but present indications are that it will not be done at all without a struggle. Reactionaries are active in their opposition to any and all schemes which aim to relieve the present situation and destroy the hold the present manipulators of Chinese currency have upon the country, and some of the most powerful officials in the Empire are open in their hostility toward a change.

GEORGE E. ANDERSON, *Consul.*

AMOY, CHINA, *February 27, 1905.*

DISCRIMINATION AGAINST BRITISH TRADE WITH SOUTH AFRICA.

(From United States Consul Mahin, Nottingham, England.)

For many months charges have appeared in the British press, usually emanating from or referring to exporters of different kinds of goods, that ocean freight rates to South Africa have been artificially maintained by a "shipping ring" at ruinously high figures in comparison with the rates for even longer distances from other countries. For instance, the "ring" is accused of carrying goods from New York to South Africa at rates from $2 to $7.50 per ton less than its charge for similar goods from Great Britain. That is to say, British shipping companies are accused of deliberately assisting American manufacturers to cut out their British rivals in South Africa. The low New York rate, it is explained in defense of the "ring," is due to the competition of the independent Prince Line. But, on the other hand, it is alleged that when the Houston Line ran steamers against the "ring," both from this country and from New York, rates were not generally cut on British shipments; instead, means were adopted which destroyed the Houston competition and brought that line within the monopoly circle. That is to say, competition reduced rates from New York, but not from this side except in some special cases.

Mr. Douglas Owen, who was sent to South Africa by the colonial

secretary to assist Lord Milner in shipping matters, has made a report which says: "Without any question this low freight from New York to South Africa has had a very prejudicial effect on British trade. For not only has it tempted American manufacturers to push trade in South Africa, but even English merchants have bought in New York for shipment to South African houses." Mr. Owen discusses the subject very impartially, suggesting that the lower freight is only one cause, and possibly not the most potent one, of the increased American imports into South Africa; but he points out that even if the low freight be not sufficient to affect retail selling prices, it is yet a saving to the importer, who pockets the $2 to $7.50 per ton difference, and is thus offered a substantial inducement to stock with American products.

The "ring" is also accused of giving a preference to German shippers. Up to 1894, it is stated, the British shipping lines were waging a freight war against the German subsidized lines, with the result that German products were carried to South Africa at lower rates than British. Peace was finally declared, the German steamers associating themselves with the "ring," it is said, but retaining a certain privilege of cooperation with the State railways, with consequences prejudicial to British trade. German goods from an interior point are carried to Hamburg, for instance, and thence per ship to South Africa at so much per ton weight for the whole distance. British goods are carried to South Africa at so much per ton measure for the water carriage. The net result is, according to an expert calculation, that German goods are laid down in South Africa for $3.50 to $6 per ton less than British goods, though traveling a greater distance.

Mr. Owen does not blame the "ring" for this result, and its worst offense in this instance seems to be that it did not foresee such a consequence when the peace terms were made. But however innocent the "ring" may really be, as respects either New York or German rates, it is popularly regarded as an enemy of British trade, and any competition would be eagerly welcomed.

FRANK W. MAHIN, *Consul.*

NOTTINGHAM, ENGLAND, *March 6, 1905.*

FOREIGN TRADE NOTES.

(From United States Consul-General Guenther, Frankfort, Germany.)

Argentine markets.—A leading Berlin paper contains a communication from Buenos Aires in which the writer urges German merchants and financiers to come into closer touch with Argentina, which gives promise of great prosperity and extensive trade. He warns his countrymen that if they tarry they will not be able to compete there with the "Yankees," who are thoroughly working the Argentine markets.

Germany and Abyssinia.—A Hamburg paper states that the Association of Hamburg Exporters has recommended to the German Government that it establish diplomatic relations with Abyssinia and appoint a consul to that country in order to promote German trade.

Shipping at Genoa.—During the year 1904 the number of vessels entering the port of Genoa was 6,151, with an aggregate tonnage register of 6,018,256. Not one of these vessels carried the American flag, although the freight and passenger traffic between Genoa and the United States is considerable.

Exports of Russian sugar.—The Russian Association of Sugar Industries calculates the exportation of Russian sugar for the year 1904 at 379,983,888 pounds, which is 148,320,000 pounds less than the exports of the preceding year.

Artificial silk.—Another company for the manufacture of artificial silk has been organized at Brussels, Belgium. Its working capital is $600,000.

The miners' strike in Germany.—In January and February, 1905, during part of which the great strike of German miners was in progress, the importation of coal into Germany exceeded that in the corresponding period of 1904 by 1,068,358 metric tons, and the exports of German coal decreased 493,646 tons. This means a net loss of 1,562,004 tons to the German coal trade for the first two months of this year. Other injurious effects of the strike were the shutting down of many works and the reduced working time in others, owing to the want of coal.

Exports of British coal.—The export of coal from Great Britain during the month of February, 1905, exceeded that for the same month of 1904 by 561,752 tons. This gain was due to increased shipments to Germany and the Netherlands, which countries were affected by the strike of the German miners.

Improvements in Siam.—Siam is negotiating for a loan of $20,000,000 to be expended in internal improvements. American contractors may profit by giving attention thereto.

Hamburg-Buenos Aires steam communication.—German papers report that the Hamburg-American Steamship Company will shortly establish a fast steamship service to Argentina whereby the passage from Hamburg to Buenos Aires is to be made in fourteen days. This would stimulate the parcels post and passenger traffic between the two countries to the great benefit of Germany.

French capitalists in Argentina.—According to the Frankfort Gazette a group of French capitalists has obtained valuable concessions for building extensive railroad lines in Argentina.

Exports of Roumanian petroleum.—During 1904 the export of petroleum and its residuum from Roumania aggregated 160,443 metric tons,

an increase of about 20 per cent compared with 1903. The chief customers for this oil were: France, 40,631 tons; England, 36,868 tons; Germany, 25,756 tons; Austria-Hungary, 22,107 tons, and the Netherlands 16,234 tons. Smaller amounts went to Italy, Bulgaria, Norway, and Turkey.

Trade in Morocco.—The imports at the port of Mogador, Morocco, in 1904 amounted to $1,475,124 in value. England and France supplied about one-third each. The remainder came from Germany, Austria, Italy, and Belgium.

Italian wine exports.—The wine exports from Italy in 1904 were 29,703,438 gallons in casks, and 7,984,000 bottles. Of the latter 5,358,300 bottles went to America, mostly to South and Central America.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *March 23, 1905.*

MEXICAN NOTES.

(*From United States Consul Le Roy, Durango, Mexico.*)

New railroad.—Work has commenced upon the 30 kilometers (18.6 miles) of standard-gauge railroad track which will connect the important mining center of San Juan de Guadalupe, in the eastern part of the State of Durango with the station of San Acacio, on the main line of the Mexican Central Railroad.

Report on irrigation reservoirs.—In connection with a previous report of the possibility of the Mexican Federal Government undertaking the construction of large irrigation reservoirs on the arid plateau, it is noteworthy that the Mexican consul at Trieste has recently prepared a somewhat exhaustive report on the physical feasibility and the economic advantages of such irrigation works. This report will soon be published at Mexico City.

Interest in rubber products.—Interest is increasing in the guayule shrub growing on the northern plateau of Mexico, from which rubber is being extracted. New buyers, for purposes of experimentation, are frequently entering the field. Several companies have been formed to construct factories and exploit the product. So far as known to the writer the methods of extracting rubber are all purely mechanical. Another plant of the arid plateau, which it is claimed will produce a rubber-like extract, is also attracting attention. Torreon is the center of the trade in the guayule (*Parthenium argentatum*) and in or near there the factories for the extraction of rubber are being built.

Manufacture of istle fiber.—The shipments of istle fiber from the eastern part of the State of Durango have increased somewhat of late.

Meanwhile the industrialization of that belt of Durango and the adjoining State of Coahuila is going on apace, and a factory is being erected near Sabinas, Coahuila, for the purpose of manufacturing the fiber in the plateau country from which it is drawn, instead of having nearly all the crude product shipped abroad. This company has the significant name "Las Filipinas," and its capitalization has recently been increased from $500,000 to $950,000 Mexican. Its domicile is at Mexico City.

Mexico's sugar crop.—The Revista Azucarera for 1905 is out. It estimates the sugar crop of Mexico for this year at 115,000 tons. Though this estimate, if verified, will give the best crop in six years, it is shorter than was hoped. The rainfall of the past year throughout the country in general, being notable on the most arid portions of the plateau as well as near the coasts, is assigned as the cause of a shorter crop than had been expected.

Mexicans not vegetarians.—Hasty travelers, noting the common Mexican diet of frijoles (beans) and tortillas (corn cakes), set this country down as vegetarian. The fact is, meat is the most favored article of diet here, those who can afford to do so eating it twice a day, while the poorest classes eat it whenever they can get it. The meat slaughtered in Durango last year amounted to nearly 3,600,000 pounds. Even allowing for the shipment of one-half of this to other parts of the Republic in various cured forms, there would remain an average daily consumption for each inhabitant of this city of nearly one-seventh of a pound.

JAMES A. LE ROY, *Consul.*

DURANGO, MEXICO, *March 31, 1905.*

GROWTH OF LIMA AND DECADENCE OF CALLAO.

(From United States Consul Gottschalk, Callao, Peru.)

An association of Lima capitalists has been formed to build and operate a second line of electric cars between Lima and Barranco, Miraflores, and Chorrillos, with a capital of 75,000 libra ($364,987).

It is also reported on good authority that a second new line of railroad will soon be built between Lima and Callao, probably as a result of the new Muelle y Darsena contract (treated of in my report of January 5, 1905[a]), which relieves incoming freights of many heavy charges and which, it is confidently expected, will greatly increase the amount of goods received at this port in the near future.

Since the introduction of the trolley road many reputable families have moved to Lima, and such few retail stores as existed in Callao have practically ceased to do business, since by a twenty minutes ride

[a] Printed in Daily Consular Reports, No. 2209, March 18, 1905.

purchases can be more satisfactorily made in Lima. The port of Callao to-day is little more than a collection of tumble-down buildings used chiefly for offices; its native population is of the poor working class, and nothing redeems it save the presence of a few commercial houses—branches of Lima establishments—the three or four branch banks, and three steamship offices, all the employees of which live in Lima.

To even the most casual observer it is patent that in course of time Lima must expand and include Callao on the one side and the chain of bathing resorts, Chorrillos, Miraflores, and Barranco, on the other. These last-named places are full of very pretty villas and are inhabited for the greater part of the year by the best Lima families. In fact, since the introduction of the suburban trolley line, which places the most distant of these resorts within a half hour's ride of Lima, it has become quite the fashion to give up living in the capital and to reside in a modern and comfortable cottage or villa at one of these resorts.

A. L. M. GOTTSCHALK, *Consul.*

CALLAO, PERU, *February 25, 1905.*

ALLEGED USE OF DANISH LABELS ON SIBERIAN BUTTER.

The Department of State is in receipt of a communication from the Danish minister, calling attention to an article published in the Daily Consular Reports for June 22, 1904, in which Consul Covert, of Lyon, France, states it was alleged at a recent meeting of the National Agricultural Society of France, that "Before the beginning of the present war between Russia and Japan, large quantities of butter were sent from Siberia to Denmark and sold in England as Danish butter, * * * and that this butter was worked over in Denmark and then marked with a Danish label in the Danish language."

In reply to an inquiry from the Department, Consul Covert explains that his authority for this statement was an article published in an English newspaper. He can not, however, recall the name of the paper, as at the time of writing, he deemed the matter of no very great importance, and reported it merely as an item of current commercial news. He had no desire to do an injustice to the Danish butter dealers.

The Danish minister also calls attention to a similar report from Consul Mahin, of Nottingham, England, published in the Daily Consular Reports for August 10, 1904, in explanation of which the consul says he gained his information from several newspapers, but not having preserved them, nor made a note of what they were, he can not give their names and their dates of publication.

The Danish minister further states in his communication that—

The King's Government long ago established a very effectua' supervision over the butter trade carried on in Denmark, as well as over the manner in which butter imported from elsewhere is labeled in Denmark. The measures taken by the Government have rendered it almost impossible to commit frauds in the butter trade, and especially so far as Siberian butter is concerned, the supervision of which is materially simplified by a single firm, "The Siberian Company." The great intrinsic difference between Danish and Siberian butter, arising from the different systems of foddering, etc., in the two countries, also renders it extremely difficult to sell Siberian butter for Danish butter.

COOPERATIVE STORES IN GERMANY.

(Extract from the annual report of United States Consul Muench, Plauen, Germany, for 1903–4.)

The system of cooperative stores ("Konsumvereine"), through which the laboring classes especially have effected so great a saving in the past, is being more and more bitterly assailed by the shopkeepers, who are even seeking Government aid in endeavoring to arrest the further spread of an institution by means of which their trade is being rapidly undermined. It is insisted, on their part, that all Government employees should be restrained from joining or forming such associations, and a countermovement be thus inaugurated. Those interested in the scheme, however, are not being deterred, have taken steps to strengthen their solidarity of interest, and now propose to pass from the plan of buying their supplies from the manufacturer direct to the still bolder scheme of becoming the manufacturers of needed supplies themselves. According to latest statistics, these associations in Germany now embrace 628 separate organizations, with a total membership of 480,000 and an annual business of $30,000,000.

ABYSSINIA, FRANCE, GREAT BRITAIN, AND ITALY.

United States Consul Albert W. Swalm, Southampton, England, under date of March 20, 1905, transmits the following articles from the London Morning Post of March 18 and 20, covering the political and commercial relations between "Abyssinia and her three European neighbors, Great Britain, France, and Italy:"

For some months past negotiations have been in progress for the purpose of determining the relations between Abyssinia and her three European neighbors, Great Britain, France, and Italy. There is reason to believe that the exchange of views between Adis Abeba, London, Paris, and Rome has now reached a point where an agreement is within sight, and it may therefore serve a useful purpose to pass briefly in review the recent history of Abyssinia's relations with her neighbors and with the outside world, and more particularly to indicate the impor-

tant part which has been played in those relations by the Ethiopian Railway.

ITALIAN CLAIM TO PROTECTORATE.

In 1889 Italy advanced a claim to a protectorate over Abyssinia, based on the treaty of Uchali. This claim was repudiated by Emperor Menelik, who denounced the treaty in 1893. In the subsequent hostilities the Italian troops suffered a severe defeat at Adowa in the early months of 1896, and by a convention signed at Adis Abeba in October of the same year the Italian Government unreservedly recognized the independence of Abyssinia.

EARLY FRENCH PREDOMINANCE AND GROWTH OF BRITISH INFLUENCE.

For some time previous to the signature of this convention the governor of French Somaliland had been accredited as envoy extraordinary to the Abyssinian court, but no other European power was diplomatically represented at Menelik's capital. With keen political instinct, M. Lagarde, the French minister, set himself to win the confidence of the Emperor, and so far succeeded that ten years ago France was the only European power which possessed any real influence in Abyssinia. The Emperor, a man of strong character and quick intelligence, was anxious to consolidate his rule and to avail himself of the assistance of Europeans in developing the resources of his dominions. For this assistance he naturally turned to France. At that time he undoubtedly entertained the suspicion that Great Britain harbored designs on his independence, and it was partly with the object of removing these suspicions that Sir Rennell Rodd was sent by the British Government as a special envoy to the Abyssinian court in 1897. It was from the Rennell Rodd mission that Menelik first obtained an authoritative explanation of the policy of the British Government toward Abyssinia. The cession of a considerable area of the British Somaliland protectorate to Abyssinia was no doubt intended as practical proof of the benevolence of the sentiments of the British Government toward Abyssinia. Permanent diplomatic relations were established between the two countries in the following year, when Lieutenant Harrington was sent from Zeila as British resident at Adis Abeba. From the moment of Lieutenant Harrington's appointment Anglo-Abyssinian relations began to improve. With the higher rank of minister plenipotentiary Sir John Harrington still represents British interests at the Abyssinian court. Simultaneously Italy's relations with Abyssinia have shown a marked advance in friendliness.

AN OPEN FIELD AND NO FAVOR.

The Emperor was thus no longer placed in a position of dependence on the support of any single European power, and as he acquired a more intimate acquaintance with the affairs of the outside world Menelik realized that the surest guaranty for the maintenance of Abyssinian independence was to be found in establishing relations with a number of foreign powers. This policy has been made easy by the anxiety which has been shown by several commercial nations to assist the Abyssinian monarch in developing the resources of his Empire. Less than eighteen months ago the United States Government dis-

patched a special mission to Abyssinia, which concluded a treaty giving the United States the privileges of the most favored nation, securing American citizens and their merchandise from discrimination on all public roads and other lines of communication, and generally regularizing the position of the United States in Abyssinia, where a considerable American trade had already grown up. An imposing German mission is at this moment in Abyssinia, and is on the point of returning to Europe after having successfully negotiated a commercial treaty with the Emperor. The broad lines of Abyssinian policy would thus appear to be sufficiently clearly defined. That policy is to establish as many points of contact as possible with foreign powers, but to be dependent on none. Its object is to secure the cooperation of foreign capital without risking the independence of the country, which might be endangered were any single power to obtain a decided predominance of commercial interests in Abyssinia.

THE STORM CENTER.

It is on this rock that French projects for establishing the political and commercial predominance of France in Abyssinia have made shipwreck. Ten years ago, as has been pointed out, France was in an exceptionally favorable position in Abyssinia. Her influence was practically unchallenged. But year by year it has suffered decline until to-day French diplomacy is obliged to confess that it is unable to secure the fulfillment by the Abyssinian sovereign of the obligations he has undertaken toward a French company. In part this decline in French influence is due to the causes already indicated, which may be summarized as the natural growth of the influence of the other powers. But it is due also to more specific causes, connected with the Ethiopian Railway enterprise. The history of this undertaking is instructive, both because of its bearing on the present situation and because it brings into strong relief the mistaken character of the policy which has from the first been adopted by France toward Abyssinia. The Emperor's European advisers early impressed on him the imperative necessity of providing improved means of communication as a condition of developing the resources of his country. But as Menelik could not build the railway himself, recourse to foreign assistance was inevitable.

TERMS OF THE RAILWAY CONCESSION.

On March 9, 1894, a concession was granted to MM. Ilg and Chefneux to form a company with the object of constructing and working a railway from Jibuti to Harar, from Harar to Entotto, and from Entotto to Kaffa and the White Nile. The railway was to be constructed in three sections, and the convention provided for the first only of these sections—that from Jibuti to Harar. The concession was for ninety-nine years, and at the end of that period the railway was to become the property of the Ethiopian Government without compensation. The grant covered the land required for the construction of the line, and Menelik undertook not to authorize the construction of any competing line between the Indian Ocean and the White Nile. All goods passing between Harar and Jibuti, and between Jibuti and Harar, were to be compelled to use the railway, and the company was to have the right of levying a duty of 10 per cent ad valorem on all

the goods it carried. The Ethioplan Railway Company was established in accordance with the terms of the concession, and had no difficulty in obtaining from the French Government a further concession for the construction of a line from Jibuti to the Abyssinian frontier.

PREMATURE REJOICINGS.

The announcement that these arrangements had been completed was received with an outburst of enthusiasm in France. Imaginative forecasts were indulged in of the benefits which France was to derive from having thus directed the whole of the commerce of Abyssinia, or at least of the southern provinces, to a French port, and from the monopoly of the Abyssinian railway system which she had obtained. Some of the opinions expressed and the phrases used were perhaps scarcely judicious in view of the certainty that they would eventually reach the ears of the Abyssinian sovereign. The Ethiopian Railway, it was said, would undoubtedly prove to be the instrument by which France would establish her political and commercial predominance in Abyssinia. The Temps was not alone in declaring that Ethiopia would become "a sort of colony of which we should reap the benefits without having the responsibilities." The point of view of Emperor Menelik was not overlooked, but it was misconceived. Frenchmen regarded the bargain as conferring benefits on both parties. France was to place her genius, the resources of her civilization, and her good will at the service of Abyssinia, and was gratefully to be accorded in return those material advantages which her sacrifices entitled her to expect. What was forgotten was that the Emperor was as resolutely opposed to a French protectorate, established by peaceful methods, as he had been to the protectorate which Italy had sought to impose on him by force of arms.

AID GIVEN BY FRENCH GOVERNMENT.

But while the French public was still rejoicing in the exceptional privileges which the right to construct and exploit the railway secured for France, the Ethiopian Railway Company was undergoing a process of disenchantment. The work of building the line proved to be much more costly than had been anticipated, and the funds at the disposal of the company began to show signs of exhaustion. An attempt to raise additional capital in Paris failed. Then an appeal was made to the French Government for assistance. Ministers were divided in opinion as to whether assistance should be given. The minister of finance was unwilling to burden the colonial budget with charges for the construction of a line not in French territory, and in the end this view prevailed. Driven to seek the capital they required elsewhere, the directors came to London, where they found capitalists willing to embark on the enterprise on terms which gave them a voice in the management and control of the railway. Then the French colonial party became seriously alarmed, and it was determined to make a final appeal to the Government to come to the assistance of the company in order that the exclusively French character of the enterprise might be maintained. The agitation was successful, and on February 6, 1902, the Government sanctioned a convention between the governor of French Somaliland and the railway company, by which an annual sub-

vention of 500,000 francs [$96,500] for fifty years was granted to the company. Two months later, on the eve of the dissolution, a law was passed ratifying this convention. There were great rejoicings at the rescue of the enterprise from international control. On the security of the convention the company raised a loan of 11,300,000 francs [$2,180,900] and made an arrangement with the British capitalists the effect of which was that the company regained control of the enterprise.

MENELIK'S DISPLEASURE.

But the agitation and the arguments which had been used to justify the intervention of the Government had not escaped attention in Adis Abeba. The suspicions of the Emperor were aroused as to the ultimate objects of French policy, and these suspicions were strengthened when the text of the convention between the French Government and the Ethiopian Railway Company was published. The convention had not been approved by the Abyssinian sovereign prior to its execution, and certain clauses as to the future ownership of the line between Jibuti and the Hawash River, which the Government had insisted on inserting for the protection of its interests, were regarded by the Emperor as incompatible with the maintenance of his sovereign rights. He accordingly declined to ratify the convention, and has maintained his refusal to the present day.

FRANCE'S EMBARRASSING POSITION.

Menelik's refusal to ratify the convention between the French Government and the Ethiopian Railway Company placed the company in a position of extreme embarrassment. The first section of the line was opened for traffic at the end of the year 1902. It traverses the desert region between the coast and the Abyssinian plateau. The company was naturally anxious to proceed as soon as possible with the construction of the second section to Entotto, or Adis Abeba, which would open up a considerable area of fertile country. But for this an Imperial decree was necessary. Great pressure was brought to bear on the Emperor to grant the decree, but without success. Further, to mark his dissatisfaction, the Emperor has refused to permit the company to collect the 10 per cent ad valorem duty which they were authorized to levy under the terms of the original concession. In these circumstances the company again found itself in financial difficulties, and a situation was created which was recently declared by the president of the Ethiopian Railway Company to have become intolerable.

OBJECT OF PRESENT NEGOTIATIONS.

The object of the negotiations which have been taking place during the past two years, and are still in progress, is to find some means of escape from this intolerable situation, which, while safeguarding the independence of Abyssinia, will secure the construction of the remaining sections of the railway and thus render it possible to develop the mineral, pastoral, and agricultural resources of the Ethiopian Empire. It is natural that Frenchmen should contemplate with extreme reluctance the abandonment of the hope of securing political and commercial predominance in Abyssinia, and acquiesce in the rival policy of equal rights and opportunities for all nations. Less than three months ago the president of the railway company expressed the hope that the French Government would still be persuaded to make an

immediate and powerful effort to obtain satisfaction for the company, and thus make it possible for the enterprise to retain its exclusively French character. More recently the French-African committee adopted resolutions pointing in the same direction, but as yet there has been no public indication by the French Government as to whether it is prepared to apply great pressure at Adis Abeba with the object indicated, or whether it intends to accept the advice of the principal French chamber of commerce that it should acquiesce in the proposal for placing the Ethiopian Railway system under international control. Among those who are pressing the former solution on the Government it is frankly recognized that French influence alone is insufficient to induce the Emperor to change his mind, and the suggestion which is put forward is that since the establishment of the Anglo-French entente cordiale the French Government may reasonably invite the British Government not only to abandon the policy which it has hitherto supported, but to join with France in inducing Emperor Menelik to accede to the French demands.

DUBIOUS ADVANTAGE OF AN EXCLUSIVE POLICY.

Even if the consideration of British interests be for the moment left on one side, it is not clear what advantage, sufficient to justify further pressure being brought on Emperor Menelik, France can hope to derive, under the changed conditions of to-day, from the maintenance of the railway as an exclusively French enterprise. No doubt, if the whole of the railway from Jibuti to the western frontier of Abyssinia, or even to Adis Abeba, were to be exclusively controlled by France, it would be a potential instrument for the furtherance of French interests. But if, as is proposed, the independence of Abyssinia is to be jointly guaranteed by her three European neighbors, the value of the railway as a means of establishing French political influence in Abyssinia would not be great. So far as commercial predominance is concerned that, too, would scarcely appear to be a feasible project in view of the commercial treaties which the Emperor has concluded with other powers containing clauses against differential rates. Nor would the maintenance of the exclusively French character of the line appear to offer any greater security for the capital invested in the enterprise. It may even be doubted whether, assuming that the French company was authorized to construct the second section and permitted to levy the 10 per cent ad valorem duty, it would be in a position to carry out the work without further financial assistance from the French Government. That an Abyssinian railway should be practically owned by a foreign government is an arrangement open to such obvious objections that Menelik can scarcely be blamed for refusing to sanction it. When the concession was originally granted it was certainly not in the contemplation either of the Emperor or of the concessionaires that the railway should pass under the control of a European power.

"INTERNATIONALIZATION."

The proposal for what is, perhaps somewhat ambiguously, described as the "internationalization" of the railway is not open to the same objection. It is not proposed that the railway should be owned and controlled by three governments instead of by one, but that it should be managed by a body of directors representing the French, British, and Italian capital invested in the enterprise. No doubt the fact that

the French Government has already a pecuniary interest in the line presents some difficulty, but there are several ways in which this difficulty might be overcome. The British capitalists who came to the assistance of the company when it was originally in difficulties had presumably satisfied themselves of the commercial prospects of the line, and it is not therefore an extravagant assumption that arrangements might be made for relieving the French Government from the financial obligations into which it has entered. But, even if this were not found practicable, the presence of a direct representative of the French Government on the board of directors would not be open to the same objection that is naturally taken by the Abyssinian Government to the railway being practically controlled by a foreign power. That, however, is a matter of detail rather than of principle. The broad issue is whether Abyssinia is to be open on equal terms to the commerce of the world, or whether one power, by controlling the means of communication, is to be permitted to obtain a preferential position.

TWO DEFINITE SCHEMES.

In the course of the negotiations the various proposals advanced appear to have crystallized into two definite schemes, both of which were submitted for their consideration to the French chambers of commerce by M. Hugues Le Roux a few weeks ago on his return from Abyssinia, where he had had frequent opportunities of discussing the situation with Emperor Menelik. One of these proposals was that the section of the line already completed should remain, as at present, under French control; that the second section from Harar to Adis Abeba should also be constructed and controlled by the French company; and that the third section, from Adis Abeba to Kaffa and the White Nile, should be constructed and controlled by a British company. For various reasons this proposal did not commend itself to the French chambers of commerce. Nor does it appear to meet with the approval of Emperor Menelik. The alternative proposal is that the whole of the line from the eastern to the western frontier of Abyssinia should be internationalized in the sense already indicated; that Jibuti and the river port on the White Nile should both be declared free ports, and that uniform customs dues should be established on the Abyssinian frontiers. Were this scheme adopted the situation would at once be greatly simplified. It is understood that it meets with the approval of the Emperor, and it offers a fair field and no favor to all the nations which have already established, or may hereafter establish, commercial relations with Abyssinia.

THE REAL INTERESTS OF FRANCE.

No doubt its adoption would involve the abandonment by France of any visionary plans she may have entertained of converting Abyssinia into a French colony in all but name. But the sacrifice would be more apparent than real. Given the geographical conditions of Abyssinia, the character of the people, and the resolute determination of the Emperor not to compromise his independence by submitting even to the veiled tutelage of any European power, the dreams of a pacific conquest of Ethiopia were from the first doomed to disappointment. By accepting the scheme France will sacrifice none of her real interests, and may, indeed, materially improve her position. So long as

its terminus remains at the foot of the Harar plateau, the Ethiopian Railway can never hope to earn a dividend on its capital. From the commercial point of view the interest of the French shareholders is that the railway should be completed with as little delay as possible. From the point of view of the interests of French trade generally, the resolutions adopted by so many French chambers of commerce sufficiently indicate what is the opinion of the scheme held by those most competent to judge. Politically the acceptance of the scheme by the French Government would also appear to be in the best interests of France, since, were this course adopted, the suspicions entertained by the Emperor as to the ultimate object of French policy would be removed, and there would be at least the possibility of restoring the relations between the two countries to something of their former cordiality.

NEW GERMAN TARIFF AND COMMERCIAL TREATIES.

(From United States Consul-General Mason, Berlin, Germany.)

On February 22 the German Reichstag, by a vote of 228 to 81, adopted the treaty of commerce with Russia, the last of the seven similar treaties which the imperial chancellor has negotiated, since the enactment of the tariff law of December, 1902, with Italy, Belgium, Roumania, Switzerland, Servia, Austria-Hungary, and Russia. The conclusion and acceptance of these conventions is regarded as the most important governmental act of recent years, and marks an epoch in the history of German economic legislation.

There is transmitted as an exhibit with this report an unofficial but accurate, clear, and well-arranged compendium, prepared and published by the Central League of German Industrials for the information of its members, under the title of "The German Treaty Tariff."[a] In this compilation is shown the new tariff law of December 25, 1902, with each article of import in order as classified under that act, and the duty to which each article will be subject under that autonomous schedule unmodified by any treaty or other concession. In the next parallel column is shown the tariff rate on each article as it is modified for certain specified countries by one or more of the seven treaties which have just been adopted. In the final parallel column is shown the autonomous duty rate on each article under the old tariff of July 15, 1879, and, finally, the same rates as modified by treaties and concessions hitherto enacted and now in force. It is under this latter tariff, with its various modifications, that German import trade has been conducted during the past ten years, and will continue to be governed until the new tariff law, modified for certain countries by the treaties cited, shall come into effect—probably during the month of March, 1906. The reason for this year of further delay is that certain

[a] The German treaty tariff is on file in the Bureau of Statistics, Department of Commerce and Labor, where it may be consulted by interested parties.

of the commercial treaties made under the Caprivi administration had a uniform duration of ten years, and could then be terminated at any time after a year's notice, or "Kündigung," from either party to the convention. Accordingly, it was deemed judicious to postpone such notice of termination until the seven pending treaties with the European countries named should be secure. This having been achieved, one year has still to elapse before the new treaties and the tariff act on which they are based will go into effect.

The publication of this compilation of the treaty tariffs enables one to see at a glance their effect on the import duties on goods coming into Germany from each of the seven treaty nations, the advantages which each thereby secures over the countries having no such special convention with Germany, and gives an easy and direct comparative exhibit between the rates under the new autonomous tariff schedule and the one now in force. It has been followed by meetings, discussions, protests, and predictions, in which the representatives of many diverse industries and interests have endeavored to foresee and portray the conditions under which their special form of business will be placed by the new schedule. Naturally the complainants, those who foresee danger, are much more voluble and eloquent than those who are satisfied with the new duties. Even the agrarians, in whose interest the whole schedule of rates on agricultural and food products was enacted, are still unsatisfied and regret that the minimum rates to which the grain duties might be reduced by treaty were not made higher. Manufacturers of machinery and many other forms of iron and steel are dismayed over the restrictions left on their trade by the treaty with Russia, in which country they have expected, with the return of peace, to find an important increase in the demand for their products. And throughout the whole of industrial Germany there is an apprehension lest the increased duties on cereals and other food products which will come in with the new tariff either render living so costly and difficult that the efficiency of labor will be impaired or compel the payment of enhanced wages that will in effect increase the cost of manufactures to a point which will weaken Germany's power of competition in foreign markets. How far these apprehensions are well founded, time and actual experience under the new schedule can alone determine.

At present it is not practicable within the limits of a report of this character to more than briefly summarize the more important changes which will be introduced by the new tariff and treaties and which will have a direct relation to German import trade from the United States in the event that after March, 1906, the advantages of the most favored nation clause shall be denied to our country and that meanwhile no reciprocal trade treaty or other convention affecting duties on imports shall be concluded between the United States and Germany.

SOME CHANGES UNDER THE NEW TARIFF AND TREATIES.

The following table will show in respect to forty-six of the principal articles of German import from America (1) the present maximum or autonomous duty as now paid under the tariff of 1879; (2) the same duties as now modified and reduced by existing treaty concessions; (3) the new autonomous duties that will go into effect next year, and (4) the amounts to which each of these rates of duty will be reduced on merchandise coming from certain of the seven European countries which have just concluded treaties of commerce with Germany. The figures show in all cases, unless otherwise specified, the amount in American currency of duty per double centner (100 kilograms or 220.4 pounds):

Tariff duties of Germany: Maximum under present law, reductions by treaty, autonomous duties to go into effect in 1906, and reductions granted to certain European countries on forty-six articles of imports, expressed in American currency per 100 kilograms (220.4 pounds).

Merchandise.	Present tariff (adopted in 1879).		New tariff law of 1902 (to go into effect in 1906).		
	Maximum.	Reduced by treaty.	Autonomous.	Reduced by treaty.	Difference.
Wheat	$1.19	$0.83	$1.78	$1.30	$0.48
Rye	1.19	.83	1.66	1.19	.47
Oats	.95	.67	1.66	1.19	.47
Barley	.53	.47	1.66	.95	.71
Corn	.47	.38	1.19	.71	.48
Wheat flour	2.50	1.74	4.36	2.42	1.94
Malt	.95	.85	2.44	1.37	1.07
Potatoes	Free.	Free.	.59	1.24	(a)
Hops	4.76	3.38	16.66	4.76	11.90
Dried apples, pears, apricots, and peaches	.95	.95	2.38	.95	1.43
Dried prunes			2.38	1.19	1.19
Fresh apples in barrels	Free.	Free.	2.38	1.19	1.19
Oranges	4.76	4.04	16.66	9.52	7.14
Lard	2.38	2.38	2.97	2.38	.59
Salted meats	4.76	4.04	10.71	8.33-9.25	2.38-1.46
Butter	4.76	3.80	7.14	4.76	2.38
Cheese	4.76	4.76	7.14	3.57-4.76	3.57-2.38
Eggs	.71	.47	1.42	.71	.71
Margarine	4.76	3.80	7.14	4.76	2.38
Wood alcohol	Free.	Free.	4.76	Free.	4.76
Cows and oxen, per head	2.14	2.14	4.28	1.90	2.38
Horses, per head	4.76	4.76	21.42-85.68	7.14-28.56	14.28-57.12
Hogs, per head	1.42	1.19	4.28	2.14	2.14
Shoes, coarse	11.90	11.90	20.23	20.23	
Shoes, medium	16.66	15.47	28.86	23.80	5.06
Shoes, fine	16.66	15.47	42.84	35.70	7.14
Lumber, rough			1.42	.47	.95
Lumber, dressed	2.38	2.38	2.38	2.38	
Sewing machines	5.71	5.71	8.33	2.85	5.48
Sewing machines, power	5.71	5.71	4.76	1.90	2.86
Electrical machinery:					
a. Under 500 kilograms (1,102 pounds) per 100 kilograms			2.14	2.14	
b. 500 to 3,000 kilograms (1,102 to 6,614 pounds)			1.66	1.42	.24
c. More than 3,000 kilograms			1.42	.95	.47
Machine tools:					
a. 250 kilograms (551 pounds or less), per 100 kilograms			4.76	2.85	1.91
b. 250 to 1,000 kilograms (551 to 2,205 pounds)			2.85	1.90	.95
c. 1,000 to 3,000 kilograms (2,206 to 6,614 pounds)			1.90	1.42	.48
d. 3,000 to 10,000 kilograms (6,614 to 22,046 pounds)			1.42	1.19	.23
Over 10,000 kilograms			.97	.97	
Telegraph instruments, telephones, electric lighting and power apparatus			14.28	b.95-9.52	(b)
Railway and street cars			2.38	.71	1.67
Motor cars and motor bicycles, each:					
a. 50 kilograms (110 pounds) or less, each			35.70		
b. 50 to 100 kilograms (110 to 220 pounds), each			28.56		
c. 100 to 250 kilograms (220 to 550 pounds), each			21.42		
d. 250 to 500 kilograms (550 to 1,110 pounds)			14.28	9.52	4.76
e. 500 to 1,000 kilograms (1,110 to 2,220 pounds)			9.52	5.95	3.57
f. 1,000 kilograms and over			4.76	3.57	1.19

a Free from August 1 to February 14.

b According to weight.

SOME EFFECTS OF THE NEW RATES.

It needs but a glance at this list to show how important will be the concessions granted to one or more of the seven treaty nations, and how formidable will be their competition in the German market against similar goods coming from countries which, for want of a reciprocal treaty or other convention, will be subject to the autonomous or unmodified tariff in exporting goods into Germany.

As an example of this may be cited the schedule relating to dried apples, pears, peaches, and apricots, on all of which there is at present a duty of 4 marks (95 cents) per 100 kilograms (220.4 pounds), and in all of which a very large and important import trade from the United States has been built up. Under the new autonomous schedule these goods will be dutiable at 10 marks ($2.38) per 100 kilograms (220.4 pounds), while imports from Italy, Roumania, Austria-Hungary, and Servia (the European countries which notably produce a surplus of these dried fruits), will come in under a uniform duty of 95 cents per double centner (220.4 pounds), an advantage of $1.43 in favor of the treaty favored product. Will the superior dried fruits of our Pacific States, with their long journey to Bremen and Hamburg, be able to stand this new competition?

Take fresh apples in barrels, of which there were imported into Germany from the United States 5,835 tons in 1902, 17,806 tons in 1903, and 14,924 tons in 1904, which, under the present tariff, are admitted free of duty. Under the new tariff all apples in barrels will be dutiable at 10 marks ($2.38) per 100 kilograms (220.4 pounds) except those coming from Italy, Belgium, Servia, Roumania, and Switzerland, the duty on which will be $1.19, or half that imposed by the autonomous tariff. Another important and very obvious feature of paragraph 47, which fixes the duty on such fresh fruits, provides that apples, pears, and quinces unpacked, that is, piled loosely in bulk or carried in bags, may be imported free from September 25 to November 25, and during the remainder of the year at the nominal duty of 2.50 marks (60 cents) per 100 kilos. This will enable the great cargoes of fruit that come by canal boat and rail from Austria, the Tyrol, Italy, and Switzerland to enjoy a decisive advantage over apples of American origin, which are now imported uniformly in barrels.

The decisive advantage of $2.85 per double centner (220.4 pounds) duty on sewing machines, as compared with the autonomous rate of $8.33, is granted only in the treaty with Switzerland, which ought thereby to find an important outlet for its surplus machines in Germany. The increased rate on shoes will have the effect of raising the import duty on an average stock of men's, women's, and children's shoes to about 25 cents per pair, instead of about 14 cents under the

present tariff. Importers of shoes from Italy, Switzerland, Belgium, and Austria-Hungary will have an advantage of $5.06 and $7.14 per 100 kilos (220.46 pounds) in medium and fine shoes, respectively, over importers of similar goods from the United States. This, however, is not a heavy handicap, and if the increase shall be shared by the American manufacturer and his German customers it ought not to be fatal to the continued sale of American shoes to Germany.

THE QUESTION OF RECIPROCITY.

Under a treaty of commerce and navigation concluded between the United States Government and the King of Prussia on May 1, 1828, and proclaimed on March 14, 1829—which treaty was taken over and continued by the German Empire after its organization in 1870—imports from and to both countries have enjoyed hitherto the advantages of Article IX of that treaty, the so-called "most favored nation clause," under which it was agreed that "if either party shall hereafter grant to any other nation any particular favor in navigation or commerce, it shall immediately become common to the other party," etc. Under this long-standing agreement American wheat, corn, and other dutiable merchandise has come into Germany at the lowest rates of duty which have been granted by this country to Russia, Austria, or any other nation.

This was further supplemented by a commercial agreement concluded between the Governments of Germany and the United States under date of July 13, 1900, whereby the duties fixed by the Dingley tariff law of July 24, 1897, were specially modified in regard to certain articles of German origin, argols, brandies, still wines, vermouth, paintings, drawings, statuary, etc., when imported directly from this country to the United States. Under these conditions the reciprocal commerce between our country and Germany has developed to its present imposing proportions, the exports from Germany to the United States during the year 1904 having had a declared value of $136,909,600, while those to Germany from the United States amounted to $216,841,800. As a source of merchandise imported into Germany the United States leads all countries, the second on the list being Russia, with $184,116,800.

The all-important question which intimately concerns the future trade between the United States and Germany is whether the present amicable arrangement, namely, the most favored nation clause, which has withstood all mutations of tariff laws in both countries for nearly three-fourths of a century, will be allowed to stand under the new situation that will be created in Germany a year hence by the enforcement of the new tariff law and the commercial treaties which have been based upon it. Germany has a similar convention with Argentina, and one of the most absorbing issues now before the Bundesrath

and the public is whether both these agreements shall be denounced and terminated with the life of the present tariff of 1879. On this question public opinion is sharply divided, and the discussion holds a leading place in the daily and periodical literature of the day.

On the one side are the agrarians, and in general, the high protectionists of all walks and professions, who insist that as Germany buys annually from the United States more than twice as much merchandise as our country buys from Germany, the present arrangement is, in view of the high duties imposed by the present United States tariff, unfair to Germany and unduly favorable to the United States. They therefore insist that the most favored nation privilege shall be withdrawn and the United States compelled to either make a new and comprehensive treaty of reciprocity with Germany or have its cereals, shoes, machinery, and other manufactured goods subject to the full duties of the new tariff. In that case American wheat and rye, for example, would pay each 47 cents per 100 kilograms (220.4 pounds) more duty than similar grains from Russia, Roumania, Austria-Hungary, and Servia.

On the other hand, the commercial and industrial classes generally, the manufacturers who appreciate the importance of cheap goods for their workingmen, and especially the great merchant steamship companies of Bremen and Hamburg whose prosperity hangs upon their direct freight and passenger traffic with the United States—these, like most Government officials and the majority of educated men in the various liberal professions, who appreciate the value of close and friendly relations between the two countries, are opposed to a drastic policy that might lead to reprisals and, moreover, increase the cost of bread.

No one can read the elaborate discussion of this subject which is now going on in the German press without reaching the conclusion that what the best intelligence and statesmanship of Germany hopes for is that out of the pending situation may come a new, broad, and carefully drawn treaty of amity and commerce which shall promote a normal and increased reciprocal trade while conserving and protecting the true interests of both nations.

FRANK H. MASON, *Consul-General.*

BERLIN, GERMANY, *March 15, 1905.*

ENGLAND'S POOR TAX.

(From United States Consul Swalm, Southampton, England.)

The semiannual report of the local government board, which has active as well as statistical control of the laws governing the relief of the poor of all classes in England and Wales, has just been issued. It gives some interesting particulars as to the amount expended for the

last half of the year 1904. There was paid for "in maintenance" $7,972,790; for "out relief" $7,699,740; making a total of $15,672,530. As compared with the corresponding period in 1903 an increase of $440,000 in expenditure is shown. In addition to the above sum, the cost for care of insane poor, in asylums, was $5,784,510, for the same half year; or a general total of $21,457,040 for the half year. For the year the charge easily reaches $43,000,000.

On July 1, 1904, the number of persons in England and Wales in receipt of poor relief (excluding pauper lunatics) was 754,046, an increase of 24,804 over the number on the corresponding day in 1903. For the support of the poor in England and Wales the tax rate paid per head of the population, by half years for 1904 and the nine preceding years, is stated in United States money as follows:

Tax rates per capita of population of England and Wales paid for the support of the poor for half years from 1895 to 1904.

Year.	Half year.	Year.	Half year.
	Cents.		*Cents.*
1895	39	1900	40
1896	38	1901	42
1897	38	1902	44
1898	40	1903	44
1899	39	1904	44

The plan of maintaining the children of the poor—or such as may be in the poorhouses or "unions"—in cottages and homes of that character, is happily finding a very general adoption, no less than 128 "unions" now maintaining the children away from the pauperizing effects of poorhouse associations. The county of London paid out 72 cents per head of its population for the half year on poor account.

ALBERT W. SWALM, *Consul.*

SOUTHAMPTON, ENGLAND, *March 30, 1905.*

INCREASE IN PRICE OF READY-MADE BOOTS.

(From United States Consul McNally, Liege, Belgium.)

The London Daily Mail says that a substantial increase in the price of boots is one of the probabilities of the near future. Northampton makers have for a long time complained that present prices are not remunerative, and the Manufacturers' Association, which includes practically all of the leading firms, has just issued the following circular to its members:

Owing to continually increasing prices of both upper and bottom leather and of all the material used in the manufacture of boots and shoes, coupled with the growth of establishment charges, such as rates, etc., which add to the cost of production, this association feels

it essential that boot manufacturers should, in order to maintain the quality and standard of Northampton goods, advance the prices at which they are sold. Whether this should be by way of percentage or so many pence per pair must be left to each manufacturer to settle in such a way as to suit his own class of trade.

Commenting upon this circular, the editor of The Shoe and Leather Record says:

I am not at all surprised at what has been done, though I do not know whether the manufacturers will be able to hold together sufficiently to raise the prices very much. Competition has been very keen lately, owing to the increased capacity of factories, caused by the introduction of new machinery to meet American competition. The result has been that every manufacturer makes more boots than before, and the difficulty is to get enough work to keep the machinery going. Prices are too low, having regard to the value of leather. It is true that the war in the Far East has helped to put up the price of leather, and while the war lasts there is no chance of its being cheaper. The Japanese, especially, have been heavy buyers of leather from America. Moreover, trade is very active in America, and the beef trust has no difficulty in holding up the price of hides in Chicago.

Certain classes of leather, it is stated, have increased 50 to 60 per cent in price.

JAMES C. MCNALLY, *Consul.*

LIEGE, BELGIUM, *March 21, 1905.*

RADIOLOGY AND IONIZATION CONGRESS AT LIEGE, BELGIUM.

(The Acting Secretary of State to the Secretary of Commerce and Labor.)

SIR: I have the honor to inclose, in order that it may be given publicity by your Department, a copy of a translation of a note from the minister of Belgium, informing the Department that the First International Congress for the Study of Radiology and Ionization will be held at Liege from the 12th to the 14th of September next, under the patronage of the Belgian Government, and inviting this Government to be represented at the Congress.

The Department will be glad to issue certificates of appointment to any persons whom you may wish to nominate as delegates on the part of the United States and who will be willing to attend the Congress at their own expense and without compensation from this Government.

I have the honor to be, etc.,

F. B. LOOMIS, *Acting Secretary.*

DEPARTMENT OF STATE, WASHINGTON, *April 17, 1905.*

(Inclosure in letter of the Acting Secretary of State to the Secretary of Commerce and Labor.)

MR. SECRETARY OF STATE: I have the honor to inform you that the First International Congress for the study of Radiology and Ionization will be held at Liege from the 12th to the 14th of September next, under the patronage of the Belgian Government, the ministers of the interior and public instruction, of agriculture, of industry and labor being honorary presidents thereof.

Members of the teaching corps of the four universities of Belgium and of the military academy are on the committee charged with the organization of the Congress. The following is a summary of the programme framed by the committee:

1. Physico-chemical section—(*a*) Properties of the electrons and accompanying radiations; X-rays, cathodic rays, ionization; (*b*) radio activity and corresponding transformations; (*c*) meteorological and terrestrial phenomena connected with ionization and radio-activity; (*d*) N-rays.

2. Biological section—Physiological properties and medical applications of the various radiations and of radio activity.

Letters (*a*) and (*b*) include, as particularly interesting points, the examination of terminology relative to the electrons, ions, etc., as well as of the theories concerning the matter and character of the energy. As to the N-rays, they possess points in common with each of the two sections.

I am instructed by my Government to invite the Government of the United States to be represented at the congress by delegates who would follow its operations, and I should be thankful, Mr. Secretary of State, for any step you would kindly take to the end of calling the attention of scientific institutions and of scientists who may take an interest in the matter to the meeting of the congress.

Accept, etc.

BN. MONCHEUR.

LEGATION OF BELGIUM, WASHINGTON, *April 12, 1905.*

COD ROE FOR SARDINE FISHERIES IN FRANCE.

(From United States Consul Goldschmidt, Nantes, France.)

In connection with the sardine catch on the coast of Brittany, large quantities of codfish roe are annually used by the fishermen, the roe being spread on the waters to attract the sardines. One of the leading importers of this port (L. Sourisse et Cie.) tells me that about 60,000 barrels of cod roe, weighing from 300 to 320 pounds per barrel, are used here in ordinary years by the fishermen. Formerly all this came from Norway, but lately some has come from the United States, particularly from Gloucester, Mass.

Its value is from $11 to $12 per barrel, but the consumption would be much greater if the product could be sold cheaper. Of course the fishermen take into consideration the heavy cost of the bait and use it much more sparingly than if it were cheaper, consequently there would be a great market here for this by-product of our fisheries if

the price could be reduced; 100,000 barrels per year, under such circumstances, could be easily sold.

The Norwegians sell their products f. o. b. Nantes or St. Nazaire, and consequently it pays the French importers to buy cod roe from Norway. The present cost of freight from the United States is as follows: Freight from New York to Havre per barrel of 300 to 320 pounds, 60 cents plus 5 per cent; from Havre to Nantes 15 francs ($2.90) per ton, or 6½ cents per barrel. As may be seen in the foregoing the local freight rate is very light.

As the roe are of no other use to our fishermen, who formerly threw them away, and many fishermen do so yet, it seems that this product could be sold cheaper; if so, an excellent market can be built up here. The Norwegians assort their cod roe in a careful manner, as to size and quality, in three grades, the larger and fuller pockets being put aside, then the next size, and finally the smaller and inferior grades. The Norwegians give ninety days' credit; Americans insist on spot cash, which, when dealing with thoroughly reliable concerns, seems strange, and frequently affects American business which might be obtained if a reasonable credit were extended. I am told that you can always tell what grade of Norwegian roe you get when you order, which is not the case when ordering the American product.

LOUIS GOLDSCHMIDT, *Consul.*

NANTES, FRANCE, *March 22, 1905.*

AMERICAN MANUFACTURES IN THE NETHERLANDS.

(Extracts from the annual report for 1903–4 of United States Consul Hill, Amsterdam, Netherlands.)

SHOES.

Mr. P. J. van Wamel, importer of American shoes and rubbers, writes me under date of October 20, 1904:

The only information we are able to give are statements of our own business. Our imports of American shoes for the first nine months of 1904 amounted to $6,619, an increase of a little more than 100 per cent over the same period of 1903. This is partly caused by our new policy of dropping a few expensive lines and replacing them by low-priced shoes, and partly by opening a new store July 1 of this year. About the same time we stopped importing shoes for other retailers, as their small orders did not pay us sufficiently for our work. We know only two other Amsterdam firms which import American shoes, viz, A. Kaufman, Singel 116, and Holcombe & Co., Keizersgracht 443. Lamberts & Co., of Rotterdam, discontinued importing American shoes this year. Very few shoes are imported into the Netherlands by foreign drummers. We

know of only three American shoe concerns whose agents visited this country, viz, C. P. Ford & Co.; Hathaway, Sole & Harrington; and Colmary & Co., Baltimore.

SEWING MACHINES.

The Singer Manufacturing Company writes:

Large numbers of sewing machines can not be sold in the Netherlands because the industry of this country is limited. Moreover, the Netherlands lost considerable money a year ago in railway shares, and for that reason all business is bad this year, yet no fewer sewing machines were sold in 1904 than in 1903.

PATENT MEDICINES.

There does not appear to be any large market here for patent medicines. Medicine can only be sold by wholesale by persons other than regular pharmacists; sales in small quantities to patients direct can only be done by apothecaries, assistant apothecaries, apprentice apothecaries, and physicians practicing outside the cities. I predict, however, that there will be a gradual growth in the sale of proprietary medicines as the old traditions are broken up and people learn to treat themselves.

AUTOMOBILES AND BICYCLES.

Mr. J. Leonard Lang has furnished the following review of the trade in automobiles and bicycles up to September 30, 1904:

AUTOMOBILES.

The sale of motor cars did not increase in 1904 as was expected, principally because of the losses incurred by the public in speculating in American stocks, and the patterns were not such that in general the auto could be considered a practical means of transportation.

Many improvements have been made in patterns during the year. The use of the customary open cars is not practicable in the Netherlands on account of the dust in summer and strong winds the greater part of the year. Automobiles must be either closed or provided with practical tops which can be closed on either side. The cars must be fitted with as many seats as possible, furnish sufficient room for storing spare tires and machine parts and the necessary luggage of passengers. The machines must be of simple construction and strong enough for the roadways. It is a mistake to import light cars. A Netherlander, when buying an auto, rather prefers to pay a higher price than to have to repair the weak parts continually. The agent or representative should own a repair shop and a stock of the parts generally required. The interchangeableness of the parts in the mechanism is absolutely required in a country where the automobiles are not manufactured.

The Government issues permits for using the roads for motor cars, and the cars are numbered consecutively. No. 1450 has been given out up to this time. However, many foreigners have a Netherlands permit, so that not more than 700 Hollanders may be considered as

owners of automobiles. The second Chamber of Parliament has under consideration a new law regulating the traffic, its main feature being to regulate definitely the traffic on all Dutch roadways, and 40 kilometers [24.8 miles] per hour has been proposed as the maximum speed.

Foreign automobile manufacturers having agencies in the Netherlands are: French 11, German 3, Belgian 1. American machines are not much seen here, and American manufacturers with the exception of the Oldsmobile have no agencies in the Netherlands. American automobiles, as far as known, are found to be too weak for this country. Steam cars of the locomobile type must undergo a change, as the Dutch law does not permit boilers. Of the electrical motor cars, well known in every country, nothing is seen here; as far as known nobody pushes their sale. Such cars might sell well. The American manufacturer does not further their sale, as a letter with price quotation and a catalogue is the only result of serious inquiries made by well-known Dutch firms. No one will buy a machine before seeing it; not a single auto being here for trial, no sales can be made. The tires largely used are made by manufacturers in France, Germany, and Great Britain. The British manufacturer has an office and repair shop in Amsterdam, and on account of the stock on hand preference is given to his wares. The so-called detachable system is the only one selling. The American single tube tire is not in favor here, because Netherlanders are not familiar with repairing them. Underparts, as accumulators, signal horns, magnets, etc., are exclusively of French, German, and English manufacture.

There will be a great demand during 1905 for small cars for physicians, notaries public, etc., and for motor cars for families living at country seats to be used as conveyances to the cities.

BICYCLES AND MOTOR CYCLES.

In proportion to its inhabitants the Netherlands is the country where the most bicycles are used. The retail prices decreased largely during the past season, and at present a good reliable bicycle, with free wheel and two brakes, can be bought for about $44. English patterns generally predominate. American bicycles are represented here by only the Crescent and the Cleveland. Some years ago an extremely large number of American bicycles were sold here, but through the fault of the manufacturers the sales have dropped. The English pattern most liked differs largely from the American makes. Brakes and mud protectors have been brought up nearly to perfection by the English manufacturers. The American manufacturers totally neglected these parts, and charged so much extra for them that importers of the wheels could not compete with English and German manufactures.

Prices of first-class American bicycles are much higher at present than those of the well-known English and German manufacturers. In consequence of the now unpopular wooden felloes generally supplied by Americans, competition is very difficult. The terms of European manufacturers are payment thirty days after delivery; Americans ask cash against bill of lading, which is not to their advantage. The American system causes distrust, purchasers paying for their machines before they can examine them. If American machine parts are required it takes from four to five weeks before they arrive; European manufacturers deliver repair materials in three days.

In order to sell American bicycles here it will be necessary to send travelers with samples, so that purchasers may see them. It is expected that prices of English bicycles will be largely reduced during the coming year.

WATCHES AND CLOCKS.

Mr. J. P. Kluyskens, watch dealer, of this city, writes as follows:

American watches have held their old renown. They are frequently asked for lately for Dutch India, where they give entire satisfaction, even in workmanship. Concerning clocks, I can not say the same, excepting some new articles, like regulators and hall clocks, which are in some demand; all the rest of the common articles are furnished by the Germans.

TRADE SUGGESTIONS.

With the people at large, Americans and American goods are in favor. Exporters should send over here the most competent traveling men, empowered to establish agencies with the right sort of people. Such proposals as the establishment of sample rooms in connection with our consulates or the fitting out of floating expositions to visit foreign ports are not, in my judgment, practicable. Each line of business must be set on its feet or extended in foreign countries as it is at home, through the personal, unwearying efforts of those familiar with the requirements and whose interests are bound up in its success. All other agencies are useful adjuncts but, in my judgment, they are not adapted to create new business.

SETTING TYPE BY TELEGRAPH.

Under date of March 4, 1905, United States Consul E. Theophilus Liefeld, Freiburg, Germany, transmits the following article from the London Daily Mail of March 3:

An interesting discussion took place at a meeting of the Institution of Electrical Engineers when Mr. Donald Murray read a paper on the Murray automatic high-speed page-printing telegraph system. The apparatus, which employs the shortest telegraphic alphabet, and therefore the quickest, was seen in operation during the evening, and will again be exhibited at the conversazione of the Royal Institution to-night.

The Murray system of printing by telegraphy is a great advance on other methods, and it has been used by the British post-office with great advantage. The German post-office has been giving it a prolonged trial, and the Russian post-office has just given an order for the apparatus.

By means of the Murray apparatus, which is far too complicated a machine to the unitiated to be described in a nontechnical article, telegrams are printed at the receiving station, and where necessary the apparatus can be attached to a linotype machine and set up type without

human aid. At the same time one great advantage of this typesetting system is that the compositor can make corrections as the type is being set up.

The Murray telegraph printer was originally designed, not for telegraphy, but for automatic typesetting in the ordinary sense of the word, the idea, inspired by newspaper experience, having been to operate a linotype automatically by means of a perforated tape produced by a typewriter keyboard. Several machines of this kind are in successful operation, but of these inventions the Murray is the only one that has been designed on lines permitting of successful telegraphic development. In fact, in the case of the Murray apparatus, the telegraphic development has been so successful that it has quite overshadowed the original typesetting idea.

"Three years ago," says Mr. Murray, "the Linotype Company in New York offered to carry out the experimental work involved in applying the Murray key-selecting mechanism to the linotype, and want of time alone, owing to telegraphic developments, prevented me accepting that offer." It is obvious that it is just as easy to operate a linotype keyboard automatically by telegraph as to operate the keys of the typewriter used in the Murray printing telegraph system. No doubt this will be done in time, but the labor-saving will not be very great. The cost of setting a column of news matter by the linotype is roughly about 3s. 6d. [85 cents]. The automatic mechanism would double the speed, but as an attendant would still be needed there would only be a saving of labor of about 1s. 9d. [43 cents] per column, or a saving of only 15s. or 20s. [$3.65 to $4.87] per night even for large newspapers.

This would hardly be sufficient to induce newspapers to start automatic typesetting by telegraph, but the possible saving of time is a more important feature. The saving of a few minutes is vital to newspapers at certain hours, and this may ultimately lead to automatic typesetting by telegraph, but there are many obstacles in the way. One is the necessity for press messages being revised, punctuated, corrected, and often cut down before being set up in type. The Murray is the only automatic apparatus making provision for this difficulty by allowing the editorial corrections to be carried out by the compositor while the type is being automatically set.

All that can be said about automatic typesetting by telegraph is that it is a possibility of the future, and that if it is done at all it will have to be done on the lines of the Murray apparatus, because the Murray system alone is practical, both from the newspaper and from the telegraphic point of view.

When a message arrives at the receiving station it is represented by a number of holes punched in the tape which operate special keys on the typewriter, pulling the typewriter carriage back when necessary, and working it as if by human hands. In the same way a linotype machine is worked. A press message is sent off in the usual way, and by means of the Murray apparatus it is immediately set up in type at the other end.

"Any person," says Mr. Murray, "who has had occasion to examine the records of patents connected with telegraphy must have been astonished at the number of printing telegraphs invented during the past sixty years. In the United States alone over four hundred printing telegraph patents have been issued since the invention of the

electric telegraph. In hardly any other field of human endeavor has so much labor resulted in so little return.

"There are many reasons for this want of success, but they are all based on the extreme complexity of the conditions to be fulfilled and the absence of any technical literature explaining what these conditions are. With one or two exceptions, telegraph engineers, realizing the difficulties of the subject, have left it alone, and printing telegraph inventors have in most cases been outsiders. The complexities culminate in the printing telegraph, because in that case the problem is to set type at a distance."

The type may be fixed on the circumference of a wheel or may exist as separate type on the ends of type bars, as in most typewriters, or as loose type in a typesetting machine; but in all cases the problem is to set type—that is to say, to bring a particular type to a particular printing point in the shortest possible time, and in the case of the printing telegraph to do that at a distance over a single telegraph wire.

It may be pointed out in passing that all telegraph systems, from the Morse key upward, are printing telegraphs more or less developed, and that a completely developed telegraph system must be a printing telegraph. Telegraphy is one of the few branches of human activity in which the tendency to substitute machinery for human skill has not yet made much progress, but the advantages to be gained are considerable, and there is every indication that the era of fully developed machine telegraphy has now arrived.

EXPLOSIVES IN BRITISH COAL MINES.

(From United States Vice and Deputy Consul Phillips, Cardiff, Wales.)

The home secretary has issued an order permitting the use of new explosives in coal mines in addition to those previously permitted.

The following is a complete list of explosives permitted under the old coal mines orders: Albionite, ammonal, ammonal B, ammonite, amvis, aphosite, arkite, bellite No. 1, bellite No. 3, bobbinite, britonite, cambrite, carbonite, celtite, clydite, colliery cheddite, dahmenite A, dragonite, electronite, Faversham powder, fracturite, geloxite, haylite No. 1, kynite, negro powder, Nobel ammonia powder No. 1, Nobel ammonia powder No. 2, Nobel ardeer powder, Nobel carbonite, normanite, permitite, phoenix powder, pitite, roburite No. 3, saxonite, stowite, thunderite, victorite, virite, westfalite No. 1, westfalite No. 2.

Abbcite, minite, monobel powder, and russelite are the names of the new explosives which can now be used.

Ingredients of abbcite.

Ingredients.	Parts by weight.	
	Not more than—	Not less than—
Nitrate of ammonium	82	78
Nitroglycerin	11	9
Woodmeal (dried at 100° C.)	10	8
Moisture	2.5	1.5

The provisions for its use are as follows:

1. The explosive shall be used only when contained in a case of stout brown paper thoroughly waterproofed with paraffin wax.

2. The explosive shall be used only with a detonator or electric detonator of not less strength than that known as No. 6, i. e., that the detonator or electric detonator to be used shall possess an effective detonative strength as great as or greater than that of one containing 15 grains of a composition consisting in every 100 parts by weight of 80 parts of fulminate of mercury and 20 parts of chlorate of potassium.

3. The explosive shall have been made at the works of Kynoch, (Limited), near Stanford-le-Hope, Essex, or at Ferrybank, Arklow, Wicklow.

4. The explosive shall be in all respects similar to the sample submitted to test on December 30, 1904.

5. The outer package shall bear the words, "As defined in the list of permitted explosives," and the inner package shall be marked with the words, "Permitted explosives to be used only with not less than No. 6 detonator," and also the name of the explosive, the name of the manufacturer, the date and place of manufacture, and the nature and proportion of the ingredients.

Ingredients of minite.

Ingredients.	Parts by weight.	
	Not more than—	Not less than—
Nitrate of ammonium	92	87
Trinitrotoluol	11	9
Oxalate of ammonium	2	0.5
Moisture	0.5	.....

Provisions 2, 3, and 5 for its use are precisely the same as for abbcite, and provision 1 requires that the explosive shall be used only when contained in a case of an alloy of lead and tin thoroughly waterproofed. Provision 4 requires that the explosive shall be in all respects similar to the sample submitted to test on September 23, 1904.

Ingredients of monobel powder.

Ingredients.	Parts by weight.	
	Not more than—	Not less than—
Nitrate of ammonium	82	78
Nitroglycerin	11	9
Woodmeal (dried at 100° C.)	10	8
Moisture	2.5	0.5

1. The explosive shall be used only when contained in a case of paper thoroughly waterproofed with ceresine and resin.

2. The explosive, if compressed into a pellet, shall not have a density exceeding 1.3, and each cartridge shall be provided with an axial perforation or cavity of sufficient dimensions to admit of the ready insertion of the detonator, and the ends or end of the paper case of each cartridge shall be clearly marked to indicate the position of the said perforation or cavity.

3. The explosive shall be used only with a detonator or electric detonator of not less strength than that known as No. 6. (See 2, abbcite.)

4. The explosive shall have been made at the works of Nobel's Explosives Company (Limited), at Ardeer, in the county of Ayr.

5. The explosive shall be in all respects similar to the samples submitted to test on October 6, 1903, and other dates.

6. The outer package shall bear the words "As defined in the list of permitted explosives," and the inner package shall be marked with the words "Permitted explosive to be used only with not less than No. 6 detonator," and also the name of the explosive, the name of the manufacturer, the date and place of manufacture, and the nature and proportion of the ingredients.

Ingredients of russelite.

Ingredients.	Parts by weight.	
	Not more than—	Not less than—
Nitroglycerin	42	40
Nitrocotton	2.75	1.75
Nitrate of potassium	26	24
Woodmeal (dried at 100° C.)	5	3
Moisture	1	0
Carbonate of calcium	0.5	0
Oxalate of ammonium	24	22
Trinitrotoluol	6.5	4.5

1. The explosive shall be used only when contained in a nonwaterproofed wrapper of parchment paper.

2. The explosive shall be used only with a detonator or electric detonator of not less strength than that known as No. 6. (See 2, abbcite.)

3. The explosive shall have been made at the works of the Compagnie de la Forite, Baelen Wezel, Belgium.

4. The explosive shall be in all respects similar to the sample submitted to test on September 16, 1904.

5. The outer package shall bear the words "As defined in the list of permitted explosives," and the inner package shall be marked with the words, "Permitted explosive to be used only with not less than No. 6 detonator," and also the name of the explosive, the name of the manufacturer, the date and place of manufacture, and the nature and proportion of the ingredients.

6. The explosive, if in a frozen condition, shall be thoroughly thawed in a safe and suitable manner before use.

ERNEST L. PHILLIPS, *Vice and Deputy Consul.*

CARDIFF, WALES, *March 24, 1905.*

DEMAND FOR MINING MACHINERY IN SOUTH AFRICA.

Under date of March 22, 1905, United States Consul Albert W. Swalm, Southampton, England, transmits the following article printed in the engineering supplement of the London Times from its South African engineering correspondent:

Now that the "long lane" of depression extending throughout South Africa has been successfully negotiated and an era of prosperity, probably greater than any previously experienced, is practically assured, a survey of the actual conditions under which the British engineering industry is carried on and the outlook will prove of interest. The chief causes for the satisfactory improvement in gold mining, which has at once been reflected in the commercial section of the community, are, first, the restarting of the mines and the development of others, and, second, the satisfactory results of the experiment of importing Chinese labor. Notwithstanding all the theoretical criticism, mainly adverse, the practical proofs have fully justified the step, for the increase of white labor, due entirely to the addition of nearly 92,000 coolies, has represented 8.3 per cent in about four months. It is further estimated that the increase will amount to 10 per cent of the newly imported unskilled labor.

MINING STATISTICS.

Nearly every mineral is found and worked in various districts, but the principal are gold, coal, copper, and tin. Diamond mining has, of course, always been a very valuable industry, and particularly during the past year, when some extraordinarily rich "finds" have been reported. The gold output for 1904 amounted to £17,025,355 [$82,843,890], that of coal £883,891 [$4,301,456], diamonds £1,185,083 [$5,767,206]. The quantity of explosives manufactured in South Africa represented 5,208 tons; that imported 1,514 tons, making in all 6,722 tons. The amount spent by the mines on stores and machinery was £9,000,000 [$43,798,500]. The output of one diamond mine, viz, the appropriately named Premier, was 749,653¼ carats, which produced a net gain of £607,738 [$2,975,570], or, roughly speaking, £1 1s. 6d. [$5.23] every minute of the past year.

TUBE MILLS.

Among the recent valuable innovations in the Transvaal gold mining industry, perhaps the most important is the introduction of tube mills to permit of the ore being more finely crushed. So far as the working tests have gone these mills have proved not only a great improve-

ment, but also a distinct success. The great aim of these mills is to increase the extraction of gold by fully 5 per cent, or, on the average, about 2s. [49 cents] per ton of ore. It has been shown that by their installation the crushing power can be augmented at less capital expenditure than would be necessary for the purchase and erection of extra stamps. Tube mills have, of course, been in use in Westralian mines for a number of years, so that their introduction places them on a sound footing from the practical point of view of South African engineers. Already the Modderfontein mine has secured three, while the several mines known as the "Eckstein Group" take thirty-two. Should these particular items of machinery prove to be as satisfactory as is confidently anticipated, there will undoubtedly spring up a very active demand, which should provide great scope for inventive ingenuity and result in important and ever-increasing additions to the total of our machinery output.

ELECTRICAL MACHINERY.

A prominent feature in mining gold, coal, tin, etc., in South Africa has been the remarkable increase in the demand for electrically-driven machinery. Hauling, lifting, pumping, and lighting are fast being accomplished by its use. For lifting purposes a motor of the 3-phase induction type, working at a pressure of 500 volts, is a representative one, and is capable of driving 125 horsepower. Where the depth is moderate 50-horsepower motors are frequently employed. There is just now quite a craze among South African mining engineers for the newest and best electric plants for hauling and lifting purposes. Pumping is gradually being performed by means of electric power, the well-known centrifugal pumps being largely used. These are also driven by steam, oil motors, and turbines, and are a vital necessity to many mines. For lighting purposes a vast and ever-increasing supply of plant and fittings are required.

DIAMOND DRILLING.

As a rule, this work is done nowadays by electricity, on account of the handiness and convenience of the system, the motor being placed wherever desired, as against the inconvenience and loss of power occasioned by old-time methods. Boring drills are an absolute necessity in every class and description of mines, and afford a great and remunerative field for the engineering section chiefly devoted to their production. In addition to power-driven drills, a large quantity of small hand-power machines are in constant use, owing to the fact that it frequently is an impossibility to place in position one of the larger kind driven by other than hand power. There are a good many different types required, according to the geological formation and conditions of working, and manufacturers, in order to participate in this trade, should be practically conversant with the conditions governing each particular locality of the great mining area.

GAS-DRIVEN MACHINERY.

Although electricity has the principal share of the burden to bear in connection with the working of the mines, it must not be assumed that the older and still very reliable and, on the whole, satisfactory gas

engine is played out. On the contrary, quite a number of mine engineers and managers favor the use—partial, at any rate—of such, and only quite recently one of the leading mines on the Rand ordered a complete gas-producing plant for early shipment. The principal drawback is, of course, the necessary supply of raw material to produce the gas, which in certain districts is somewhat scarce.

A few years ago an inventor brought out a compact little plant destined for the production of cheap gas for mining and similar purposes, located far from municipal supplies. The invention consisted in a well-devised copper generator, wherein sulphuric acid and iron were combined, producing a gas far superior for power purposes to the ordinary "town" supply. By carbureting, the same was of course available for lighting also. The great drawback was that the residue had to be disposed of in order to reduce the cost, and this occasioned too much trouble to the user. The by-product (sulphate of iron) was a remarkably pure one, but the disadvantage referred to put it out of the realm of practical use.

GERMAN AUTOMOBILE TRADE.

(From United States Consul Monaghan, Chemnitz, Germany.)

The imports of motor wagons into Germany in 1902 amounted to 3,949 double centners (870,605 pounds), valued at $845,582; in 1903 to 5,641 double centners (1,243,625 pounds), valued at $1,196,188, and in 1904 to 8,459 double centners (1,864,889 pounds), valued at $1,793,806. In 1904 France supplied almost three-fourths of the imports.

The following table shows to what extent the different countries participated in supplying Germany's demand:

Imports of automobiles into Germany from various countries in 1902, 1903, and 1904.

Country.	1902.	1903.	1904.
	Pounds.	*Pounds.*	*Pounds.*
Belgium	89,903	54,895	104,939
France	642,746	899,265	1,352,365
England	34,612	28,439	42,328
Austria-Hungary	73,854	74,735	127,205
Switzerland	38,139	39,403	74,295
United States	23,148	108,027	128,087

The importation of auto trucks (Lastwagen) was of no great importance. It amounted to 371 double centners (81,791 pounds) in 1902, valued at $35,224; in 1903 to 491 double centners (108,245 pounds), worth $40,936, and in 1904 to 594 double centners (130,953 pounds), valued at $49,504.

The export figures are very encouraging to Germany, as the following will show: In 1902, 5,268 double centners (1,161,383 pounds) were exported, worth $1,128,358; in 1903, 5,876 double centners (1,295,423 pounds), worth $1,258,544, and in 1904, 13,086 double centners (2,884,940 pounds), worth $2,802,926.

Exports of automobiles from Germany to various countries in 1902, 1903, and 1904.

Country.	1902.	1903.	1904.
	Pounds.	*Pounds.*	*Pounds.*
Belgium	67,020	95,900	196,225
France	243,388	375,002	957,237
England	291,889	279,101	660,278
Italy	33,950	29,983	65,036
Netherlands	28,218	32,628	77,381
Austria-Hungary	175,496	167,109	488,098
Russia	72,531	73,854	85,721
Switzerland	52,910	41,887	84,877
South Africa	60,186	90,829	29,542
United States	10,582	28,148	67,902

It will be seen that France, England, and Austria-Hungary play a very important part in the export trade of Germany.

The following figures show the exports of motor trucks: In 1902, 335,099 pounds, worth $144,704; in 1903, 462,965 pounds, worth $175,882, and in 1904, 876,990 pounds, worth $331,296.

German manufacturers were able to send 455 double centners (100,309 pounds) of automobiles to Chile, and feel convinced that having obtained a foothold in South America they will be able to increase this amount in 1905, and are exerting every effort to do so.

Germany's import of motor cycles for the last three years was as follows: In 1902, 36,596 pounds, worth $39,508; in 1903, 108,466 pounds, worth $105,434, and in 1904, 156,306 pounds, worth $151,844.

Imports of motor cycles into Germany from Belgium, France, and Austria-Hungary in 1902, 1903, and 1904.

Country.	1902.	1903.	1904.
	Pounds.	*Pounds.*	*Pounds.*
Belgium	17,637	69,445	64,815
France	9,439	18,739	41,887
Austria-Hungary	7,716	12,125	32,628

The German exports of motor cycles for the same period were as follows: In 1902, 19,180 pounds, worth $32,848; in 1903, 128,969 pounds, worth $139,230, and in 1904, 384,703 pounds, worth $290,598.

Exports of motor cycles from Germany to various countries in 1902, 1903, and 1904.

Country.	1902.	1903.	1904.
	Pounds.	*Pounds.*	*Pounds.*
Denmark	.....	9,921	39,682
Italy	.....	13,688	34,832
Netherlands	51,587	25,132	34,832
Austria-Hungary	4,188	17,416	35,935
Switzerland	1,323	16,314	20,063

J. F. MONAGHAN, *Consul.*

CHEMNITZ, GERMANY, *March 16, 1905.*

ATLANTIC PORT FOR THE GRAND TRUNK PACIFIC RAILROAD.

(From United States Consul Worman, Three Rivers, Quebec.)

There is considerable speculation as to what port will become the great terminal of the Grand Trunk Pacific Railroad on the Atlantic side. The improvements made at Portland, Me., and the purchase of more land there by the Grand Trunk Company point to Portland as the natural outlet for winter in the future as now, but it is thought that Halifax may also come prominently into the scheme.

At a luncheon given on the new Allan liner, *The Victorian*, on her trial trip on the Clyde, the chairman of the company is reported to have said that the Grand Trunk Pacific would have a great terminal port nearer the ocean than the St. Lawrence; when, viewing it from a European standpoint, the Canadian route would be the great waterway to the American continent, with steamers running at unequaled speed and safety. The officials of the Grand Trunk Pacific, however, are reported as not having in contemplation the abandonment of any port now available. It is comparatively easy, they say, to establish a center on a railway in the interior, but the conditions are altogether dissimilar on the coast, where it is difficult to find the prime requisite, a good harbor.

Montreal, as the commercial center of Canada, will continue to be the summer terminus for the Grand Trunk Pacific road, the Grand Trunk Railway, and the Canadian Pacific Railway, and the city of Quebec will be the port of call.

JAMES H. WORMAN, *Consul.*

THREE RIVERS, QUEBEC, *March 15, 1905.*

RAILWAY CONSTRUCTION IN PERU.

Under date of March 17 and 22, 1905, United States Minister Irving B. Dudley, Lima, Peru, transmits an article translated from El Comercio of that city, of March 14, relative to the construction of the Chimbote-Recuay Railway, and a translated copy of a contract for the construction of a railway from Sicuani to Checcacupe, which herewith follow:

CHIMBOTE-RECUAY RAILWAY.

There has been definitely organized in London a company which will take charge of the construction of the railroad from Chimbote to Recuay, the concessionaires of which were Messrs. Schaefer and Alexander Puente. The construction of this railway will now become a fact, because the new company has come to an agreement with the Peruvian Corporation, which hitherto had done nothing but place obstacles in the way of the building of the line.

In accordance with the arrangement, equally satisfactory to both parties, and consequently to Peru also, the company now formed will only have to construct the railway, not as before intended, from Chimbote, but from Tablones, which is situated at a distance of 57 kilometers (35.4 miles) from the first-named port. The gauge of the line is to be not the usual one of 144 centimeters (4.64 feet), but 91 centimeters (2.82 feet).

It is unnecessary to say anything as to the immense importance of this line which will run through the fertile valley of Huaylas, the mineral wealth of which region has always astounded everyone who has traveled there.

RAILWAY FROM SICUANI TO CHECCACUPE.

The following is a translation of the agreement between the minister of fomento and the Peruvian Corporation:

ARTICLE 1. The Peruvian Corporation will construct the section from Sicuani to Checcacupe of the railway from Sicuani to Cuzco for the Government, in accordance with the general and detailed plans and technical specifications of the engineer, Mr. Adrian Bentzou, which were approved by the resolution of March 10, 1905.

ART. 2. The price per kilometer shall be 2,300 libras ($11,183 per 0.62 mile), for the line ready for traffic, with stations, telegraph lines, etc., with exception of the rolling stock.

ART. 3. The Government will pay monthly to the Peruvian Corporation an amount in proportion to the work done, but in no case more than 6,000 libras ($29,199). The Peruvian Corporation may suspend work if the Government shall omit paying one monthly dividend. The first payment shall be made on the signing of this contract.

ART. 4. The section must be concluded so as to be handed over for traffic on March 31, 1906, at the latest, after the previous approval by the Government of the report of the inspecting engineer.

ART. 5. The price of 2,300 libras ($11,183 per 0.62 mile) has been agreed upon in view of the salaries, cost of each cubic meter of cuttings, masonry work, the price of rails and sleepers, etc., set forth in the estimates of Engineer Bentzou, and of the observations made by the corps of road engineers.

If the next section shall be contracted for with the Peruvian Corporation at so much per kilometer, the amount shall be fixed in view of the actual figures. A deduction shall also be made for the value of the instruments, tools, and building outfit purchased for the first section.

ART. 6. The Government will appoint, from the commencement of the works, an inspecting engineer and an accountant, if the latter be necessary, in order to be able to form an idea as to the modifications which it may be necessary to introduce in the figures forming the amount per kilometer in the contracts for the following sections. To each one of these individuals the Peruvian Corporation shall afford every class of facilities for the performance of his respective duties.

ART. 7. The technical and administrative staff is to be preferentially Peruvian, and at least 75 per cent of the staff must be of that nationality.

ART. 8. The Peruvian Corporation obliges itself to employ a permanent medical man, with medicine chest and other elements, who shall

attend the sick laborers, look after the hygiene of the camps, clothing, and food, and hand in reports at least weekly to the board of health.

ART. 9. The Peruvian Corporation must keep in order and repair this section during two years, in accordance with the conditions which in due time may be agreed upon.

ART. 10. The expropriations which may be necessary shall be made by the Government and paid by the Peruvian Corporation, as they are included in the price per kilometer agreed upon, to the amount of 2,728 libras ($13,276), for the whole section.

OPPORTUNITY FOR AMERICAN TANNERS IN ARGENTINA.

(From United States Minister Beaupré, Buenos Aires, Argentina.)

The duties that Germany has just imposed upon quebracho wood have struck very vitally at one of the large interests of this country, and have been commented upon in the press with great concern. The duties in question[a] amount, I believe, to 20 marks ($4.76) per ton on quebracho imported in its natural state, and 80 marks ($19.04) per ton on extract of quebracho, which are prohibitive. The fact that this one article, which is found only in this country, should have been singled out for prohibitory taxation is significant, and is considered here as a move on the part of Germany to get more favorable commercial relations from Argentina. In view of these considerations, and of the fact that the German tanners must have this article for the purposes of their industry, it seems unlikely that the duties mentioned will be allowed to stand long.

In the meantime there are those among the business men of this country who express the opinion that this step may prove a blessing in disguise by fostering the tanning industry in this Republic. With the hides and the tannin at hand, it would seem that the former could be tanned more profitably here than elsewhere, and that the finished article could be exported cheaper than the raw material. This might prove, then, a favorable moment for the American tanner to turn his attention toward this country, where, I believe, every facility is to be found for profitable exploitation.

A. M. BEAUPRÉ, *Minister.*

BUENOS AIRES, ARGENTINA, *March 8, 1905.*

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[a] The rates referred to are the so-called "conventional" rates. The "autonomous" rates, or those which will apply to all countries not accorded the "most-favored-nation clause" by March 1, 1906, are 70 marks ($16.66) per metric ton of quebracho wood and 280 marks ($66.64) per metric ton of solid tanning extract.—BUREAU OF STATISTICS.

REDUCTION OF SPANISH DUTIES ON WHEAT AND FLOUR.

In the Daily Consular Reports for January 17, 1905, a report from United States Consul R. M. Bartleman, of Seville, was printed in relation to the then proposed reduction of the tariff duties on wheat and flour in Spain, as follows:

Under the present tariff wheat and wheat flour pay duties of 6 and 10 pesetas per 100 kilos ($1.16 and $1.93 per 220 pounds). I shall duly apprise the Department as soon as the bill is approved and enforced.

Since wheat and wheat flour pay duty in gold, the peseta, when used in connection with duties, has been valued at 19.3 cents gold; otherwise the value of the peseta is calculated at 13½ cents gold.

PROPOSED LAW.

The Secretary of the Treasury, during yesterday's session of Congress, read the following bill relative to the reduction of duties on wheat and wheat flour in Spain:

ARTICLE I. From the day of the promulgation of this law the duties on imported wheat will be reduced to 4 pesetas (77.2 cents) per 100 kilos (220 pounds), and the duties on imported wheat flour to 7 pesetas ($1.35) per 100 kilos. This reduction shall remain in force so long as the price of wheat exceeds 28 pesetas ($3.78) per 100 kilos on the Castilian markets, quotations in the markets of Valladolid, Salamanca, Zamora, Palencia, and Burgos being taken. The market price declining, but not reaching a figure lower than 27 pesetas ($3.64) per 100 kilos, the Government shall establish the duties provided for by the law of March 14 last, while in case the market price falls below 27 pesetas per 100 kilos, the duties of the ruling tariff shall again be applied by the Government.

ART. II. The provision made in Article I shall apply to wheat shipments arriving in Spain the day on which this law is promulgated; furthermore, to those which on said day are being cleared at the custom-house, as well as to shipments in bond or warehouses, in conformity with article No. 110 of the general custom-house regulations.

Consul Bartleman advises the Department that the foregoing proposed law went into force on April 7, 1905.

EFFORTS TO SECURE TRADE.

(From United States Consul McNally, Liege, Belgium.)

The growing competition among the principal European countries for control of the world's markets compels the employment of new and ingenious devices to open avenues for the introduction of their manufactured products. That every effort is put forth to compass supremacy is no longer a matter of doubt. Whether it be naval increases, liberal subsidies to merchant marines, or the formation of

trade associations, the basic idea is the commercial and industrial welfare of the nation. They miss no opportunity to force their flags into distant marts, and while this system entails expense the hope of quick and substantial returns encourages the outlay.

At home less expensive but just as powerful methods are being introduced to win commercial supremacy, and all known means are resorted to to secure it. Trade experts in the principal lines for which the country is noted are sent to the contemplated markets and instructed to make minute investigations of the possibilities for the successful entrance of the products represented. Every detail is gone over, and nothing of importance is overlooked that will in any way contribute to the reception of their goods. Every overture is made to the dealers, and if all else fails concessions that will undermine their competitors are freely offered. The matter of credits is not permitted to stand in the way, and particular attention is given to the details of the local trade. Articles of whatsoever nature are specially adapted to meet special demands. Public demonstrators are employed to show the guaranteed merits of their goods, and traditional customs are respected in every sense. In a word, every energy is brought into action to retain supremacy in the markets heretofore controlled by them, or to enter into new fields where the commercial and industrial supremacy of another country is well established.

This competitive struggle is enlarging the retail branch of trade. The keen rivalry among the manufacturers of the various countries engenders the same spirit in the retail field, and the consumer is after all the recipient of the good that comes from live competition.

Increased governmental expenses enhance taxation which must be paid. The welfare of a people and the ability to meet governmental requirements depends largely upon industrial and trade conditions. A commercial and industrial depression would be far-reaching in its consequences; hence the governments enter into the struggle to secure markets to keep their people prosperous and contented. To keep them employed at a satisfactory compensation the field of endeavor must be extended. The congested condition of the larger of the manufacturing countries necessitates a large field for a wide variety of products, which must be sold at the minimum margin of profit to the manufacturers. The lines are being drawn closer and closer, and the time will probably come when it will be an intensified struggle for existence, when indeed the principle of the survival of the fittest must prevail.

How must American manufacturers meet this competition, not only in the markets of Europe but in the United States? To remain quiet and to indulge in thoughts of security by reason of our up-to-date methods and the perfect adaptation of our goods to suit the markets of the world in quality and finish, aided by the tariff, which is deemed a sufficient safeguard, will in the end prove disastrous. It must be remembered that these struggling European countries are yearly

sending their most efficient young men to the United States to study our methods and to adopt the very ideas, if possible, that have made us the greatest of commercial nations. Their ultimate desire is to outdo us in the markets of Europe, and eventually in our own country.

Our manufactured articles at present lead the world, whether machinery, shoes, or other staple articles. The European manufacturers, instead of decrying our products, diplomatically adopt our models, manufacture along the same lines, and while in some instances proclaiming their products to be of American manufacture, generally advertise them as being made from or after American models. Our goods are successfully on the market and with the exercise of good judgment they are there to stay. We must, however, eventually meet the favorable conditions offered by the European manufacturers. The assumption that they are employing antiquated machinery or that the products are handmade; that their labor, by reason of the low wages paid, is unskilled; or that the facilities that obtain at home are not to be found abroad, is an erroneous one. Our manufacturers must disabuse their minds of the impression that under our tariff rates products made abroad can not be introduced into our home markets to successfully compete with our own, even in articles in which we are thought to excel. I have in mind a manufacturer in this consular district who makes an article in which American manufacturers in the same line are thought to be superior. After paying the expense of shipping and the tariff duty he undersells our makers in the American markets. It is claimed that his exported articles are of better quality than our own products. The idea prevails in the United States that lack of up-to-date mechanical contrivances and employment of unskilled workmen will prevent successful competition, and that goods now imported must necessarily be undervalued.

I have the statement of a gentleman who was formerly engaged in the business to which I refer, that the machinery employed here is in every way equal if not superior to that of the best workshops in the United States, and that the manufacture is conducted on a better plane in every detail—yet this very business is considered to be one of our best. Many manufacturing institutions abroad are just as well equipped as those in the United States and that fact must be met when contemplating an entrance into competitive markets. Long experience and close competition has taught the Europeans a strict application of economic principles in the operation of their plants. Nothing is wasted, whether it be a by-product considered as useless in other countries or gases that are being applied for a double purpose, or anything else that the ingenuity of man can put to use.

To those desiring to sell abroad I would emphatically urge the importance of showing goods. They must not depend on catalogues and circulars, even though they are creations of art, for these people can not read them, and they say that the art of engraving and photog-

raphy can enhance the beauty of a thing much beyond that of the original. Send men speaking the language of the country in which it is desired to sell products to demonstrate their merit and at the same time to discover the obstacles to be surmounted before one can successfully sell. Traditional customs must be respected. The Old World is conservative and will not take on new forms readily, but once impressed its people will adhere to the new form as tenaciously as they did to the old. Goods must be cut to suit the trade, machinery must be made to meet the demands of the various countries, colors to which certain peoples are closely wedded must be supplied, and every wish and taste must be catered to in order to win and keep the various markets. What will be received as a long-felt want in one place will be rejected in another.

The location of a general dispatching depot in one of the large centers might serve in facilitating the delivery of goods, but I doubt if it would enhance the sales. The goods should be introduced in some way agreeable to interested parties in all of the important cities. American goods will always sell when properly advertised.

The matter of credits is the all-important one. The manufacturers in Europe, after first being satisfied as to the commercial standing of the prospective buyer, do not hesitate for a moment to meet the desire of the buyer as to the credit terms if the prices are agreeable. Long periods are seemingly necessary where bills are rendered by the retail dealers semiannually, at the shortest. This seems to be a custom long established. With this system in vogue, the demands of the Americans for payment in thirty or sixty days find no favor; if agreed to it would, in many instances, cause a hardship.

European buyers are more or less suspicious of American representations as to the merits of their goods. "Never deceive" should be the motto of our manufacturers and merchants in dealing with foreign buyers. Goods should equal sample, and prices and terms agreed upon must be adhered to. One disgruntled customer will shout his grievances from the housetops, and if his complaint is worthy of notice the effect will be plainly observed by the American shipper. Delivery should be according to promise and arranged to meet the trade demands as well as the concessions given by the foreign manufacturer. This done, the markets are ours without further effort other than to keep up to the present condition of our products.

This office is in receipt of periodical requests of persons here to represent American manufacturers, but I hesitate to recommend them without being sufficiently acquainted with their standing commercially. If, however, representatives of American manufacturers desiring to place their goods here would make visits to this country they could at the same time look up capable agents while studying the market.

JAMES C. MCNALLY, *Consul.*

LIEGE, BELGIUM, *March 14, 1905.*

AMERICAN FLOUR IN THE NETHERLANDS.

(Extract from the annual report for 1903–4 of United States Consul Hill, Amsterdam, Netherlands.)

I have asked Mr. John M. Turner, European representative of the American Hominy Company, to make a statement of the flour situation in the Netherlands, and he has kindly given me the following:

Flour importations into the Netherlands from the United States amounted in value to about $5,000,000 in 1903. The recent action of the Dutch Legislature, in declining to put an import duty on flour entering the Kingdom, should be of great value to American millers as insuring the continuance of a market they have had for years. To properly understand the economy and appreciate the ability of the Dutch people, a few facts concerning their flour consumption may prove interesting.

The flour annually imported into the Netherlands from the United States does not vary much from 3,000,000 sacks per year. These sacks weigh 110 pounds each and are generally imported in lots of 300, for which single bills of lading are required. The importer takes the bills of lading, after the draft accompanying them has been paid, to the exchange, where, in many instances, they are handed over to his buyers located in various sections of the country. These interior buyers are, in many cases, bakers, so that much of the flour has only one profit to pay between the American miller and the baker. Where a jobber is the buyer, he generally distributes to the grocer, who sells in small quantities to families. In few cases are there over two profits between producer and consumer.

Fully 75 per cent of the flour imported into the Netherlands is what is known to the trade as clear flour, the grade below the patents. These flours are carefully mixed or "blended" with others in order that the highest results may be obtained in the loaf. This applies to the color and size, both of which are important factors to attract the eye of the consumer. The flavor of the bread should, together with its price, be the inducement for further purchases. The bread of the Netherlands is not excelled by that of any other country in Europe, and it is said by competent authorities that the flour for it is bought cheaper than by any other country in Europe. The Dutch do not depend upon the highest patent flours to get the best results, but rather upon the art of blending lower qualities, so they will produce results others seek to obtain from flours of higher cost.

The Dutch importer buys his flour when the commodity is cheap, but when it advances beyond what he thinks it is intrinsically worth, he waits. It is very rare to find Netherlanders in the market on strong advancing prices; they will exhaust their stocks before being forced by speculators to buy beyond their idea of value. Sellers doing business with Dutch flour buyers say that it is quite useless to attempt to enthuse the importers by crop scares, war rumors, or any schemes for advancing values. They simply decline to operate, and live on their former purchases until the market shapes favorably.

Arbitrations are very rare in the Netherlands among its flour importers, as they are good merchants, and differences are settled in most cases amicably between the parties interested. Flour is not sold to importers by contract, as is the case in the markets of Great Britain,

the buyers never having found it necessary to have an association contract to govern their trades.

Parties who know state that bakers' profits have been somewhat curtailed owing to the advance in the price of flour and the inability or unwillingness of the bakers to raise the price of bread to a corresponding level. In fact, bakers have been industriously at work since the advance commenced in finding suitable mixtures of cheaper grades of flour which will enable them to make the same presentable loaf at no increased cost, and to obtain these results the interior mills and those of Belgium have been called upon to supply their clear flours, which are not so rich in gluten as those from the United States, but are cheaper, being made largely from the Russian wheat which found enormous sale in Europe in 1903.

Russian wheat is responsible for quite a loss to the American millers this year. The crop was large in Russia, and owing to the fear of war, it was rushed quickly to market, and much of it was shipped to the Netherlands, Belgium, and England before it was sold, in order to insure the owner a market based upon its value rather than upon what the Russian Government might think it was worth in case a ukase forbidding exports were issued. While this wheat was mixed with considerable rye, it still made a very good flour, and the Dutch baker was not slow to avail himself of it when American prices advanced. It is quite easy for the baker to manipulate his flour mixture and maintain the quality of his loaves, the chief difference being in number rather than in appearance or flavor. The American clear flours contain so much more gluten than other flours that their absorption of water is greater, and naturally the more water the baker can use the greater his profits, but when the American clears get beyond his reach in price he switches to native or Belgian flours at reduced prices to offset the absence of absorptive qualities.

It will be quite clear to any observer that the Dutch baker understands his business. Failures are few, and some of the bakers are wealthy. Flour importers rarely fail, and their credit is as high as those of any country doing business with the United States. It may be stated that the Netherlands is getting its bread as cheap as any other nation, and that no country importing flour handles the business on closer margins or with a better knowledge of what kind of flour will produce the best bread at the lowest cost.

CURRENCY IN CIRCULATION IN FUCHAU, CHINA.[a]

(From United States Consul Gracey, Fuchau, China.)

There is no such thing known here as a Fuchau tael. We have the haikwan (customs) tael, the Yangping tael (foreign scale), the Hsinyu tael (native tael), and Kuping taels (treasury scale, used by the mandarins).

Fuchau currency means the "chop dollar," which might equally well be called the scooped, scraped, cut, or punched dollar. It is not

[a] This report was prepared in answer to a request from the United States chargé d'affaires at Peking.

uncommon to see in one silver dollar piece from three to five holes about the size made by the usual paper-fastener punch. The scooped or scraped dollar is one from which a chip has been gouged out by a steel instrument to see if the silver goes beneath the surface. The cut dollar is one with a slit on the edge a fourth to half an inch deep. But the pure chop dollar is a silver piece, either Mexican, Hongkong, American, or British, or a Japanese yen. These silver dollars when received by a native banker are placed upon a heavy block of wood and struck with a steel hammer, on the face of which is cut the Chinese character or chop of the bank, and dollars thus stamped will be redeemed by the banks whose chops or names are thus found on the face of the coins; hence the name chop dollar. Some coins have many scores of these stamps on them, and being hammered so frequently become bent like bowls, and foreigners sometimes have silver handles attached and thus have curious chop-dollar spoons.

The silver dollars are put up in bags containing 1,000, and each time they change hands among the native bankers they are shroffed—that is, each separate coin is inspected, and if passed it receives the stamp of the bank, but if rejected it is styled a "broken" dollar, having reached a stage of deterioration below that of the merely chopped dollar. Coins which have been fired and do not ring are rejected, their ultimate destination being the melting pot. All the dollars coined at Chinese mints are also rejected. These are sorted out and shipped back to the province issuing them. The Japanese yen is split by the local native banker to discover if the metal is pure, and if pure to prevent it from being shipped to other provinces to be used as currency. Thus a quantity of yen silver is always retained. In the local mint 30,000 broken dollars are melted down each month, and are minted into subsidiary coins of 5, 10, and 20 cent denominations. No 50-cent coins are circulated here. One dollar of Fukien subsidiary coin, of 10 and 20 cent pieces, equals in value 98 cents Kwantung; one dollar Mexican (71.7) equals 102 cents Kwantung, or 104 Fukien cents.

The scale used by the foreign banks, viz, "Hongkong and Shanghai Banking Corporation" and the "Chartered Bank of India," etc., is 71.7 taels to $100 Mexican, and is called the "Yangping" scale, while the scale used by all the important native banks, except the haikwan or customs bank, is known as the "Hsinyu." The true weight of the Hsinyu, 74.16, equals Yangping 71.7, but the native banks invariably pay short weight, viz, at a ratio of 74.066, which, roughly, is 9 per cent; 100 taels Hsinyu at 74.066 actually equal $135.01, whereas at 74.16 they would equal $135.18. All customs duties are paid in at the haikwan bank in haikwan taels—that is, by weight. If customs duty for 1,000 taels is to be paid, 10 per cent is added as a fixed "cover" between sycee and dollar coinage, which makes the duty 1,100 taels. This is usually paid by the foreign merchant, or hong, by check on a foreign

bank at the rate of 1,100 at 72, and thus equals $1,527.77 Mexican. This check for $1,527.77 must be cashed at the Hongkong and Shanghai Bank or the Chartered Bank, at 71.7, realizing 1,095.41 taels, as the haikwan or customs do not receive checks or paper of any kind. The dollars realized, after this weighing on the Yangping, are taken, in block, to the haikwan bank and weighed on the haikwan scales, which are heavier than the Yangping scale, the actual equivalent of 71.7 being 71.5; the loss, roughly estimated, on the above transaction, is $14.50 on tael duty of $1,000.

In Fuchau all paper money is called Taifu, $1 being nominally equal to 1,000 "cash." This paper money is issued only in terms of the Hsinyu scales, but $1 Taifu is equivalent to 70 candareens. Only Hsinyu notes are issued, for which "cash" can be received on presentation by and at some seven native banks. The notes are for 1, 2, 3, 5, 10, 20, 30, 50, 100, 1,000. One dollar Taifu realizes on the Yang ping scale 94 cents Mexican at the rate of 74.15. In handling the "chop" dollar, which is the Fuchau currency (the foreign banks notify all customers that they only provide Fuchau currency), $1 equals 71.7 weight, and upon the presentation of a check for any number of dollars the tael equivalent is found by multiplying the amount of the check by 71.7 and dividing by 100 weights. The coins are then put on the scales, if the amount is at all large, and if they have been long in use and much chopped or cut, more coins will be given out than are called for in the check. The market rate is fixed daily by the native banks.

If clean Mexican dollars are desired they can generally be obtained in small quantities by selection, and command a premium of from 2 to 5 per cent, the rate being governed by the price of clean Mexican in Shanghai, which is telegraphed daily.

SAMUEL L. GRACEY, *Consul.*

FUCHAU, CHINA, *February 22, 1905.*

CHINESE TEA RETURNS.

(From United States Consul Anderson, Hangchau, China.)

The tea men of central-coast China expected a light and poor crop last year, and the final returns of the customs in the ports concerned show that their expectation was well founded. The annual trade returns at Hangchau cover not only the shipments of the famous Loongching tea and other varieties produced in Chekiang Province, except a comparatively small amount which goes to the coast through Ningpo, but they also cover the tea trade of Anhui Province, practically all the Fychau tea now produced going through this port. It

was predicted that the trade would fall off last year to the extent of fully 20,000 chests owing to the cold, damp, and generally unfavorable spring. The returns for the year show that there were sent out of this port, of green Loongching and Pingsuey, a total of 214,500 pounds, valued at $59,350.10, and of the unfired leaf a total of 877,700 pounds, valued at $82,939.50. The record for the last six years is as follows:

Production of tea in Chekiang and Anhui provinces, China, 1899 to 1904.

Year.	Dust.	Value.	Green.	Value.	Unfired.	Value.
	Pounds.	*Dollars.*	*Pounds.*	*Dollars.*	*Pounds.*	*Dollars.*
1899	811,300	.....	10,036,500	.....	618,900	.....
1900	420,300	.....	9,784,700	.....	573,900	.....
1901	551,500	14,476.70	10,940,500	1,754,507.00	482,900	38,822.00
1902	858,700	22,541.40	13,738,000	2,497,849.00	813,700	64,078.00
1903	841,300	35,212.10	15,575,500	2,936,927.00	1,481,500	95,079.00
1904	760,100	35,107.80	13,962,500	2,845,227.70	877,700	82,939.50

The above returns show an increase in the amount of tea shipped from this port which should not mislead. The increase represents a change of the course of shipment for tea from the great Anhui Province fields to the coast by way of Hangchau rather than by former routes. The fact is that the tea trade of the country concerned has greatly decreased, although the great falling off last year, apparent in the year's returns and in reality greater than these returns indicate for the reason noted, shows the loss due to a poor season rather than any general movement. Of the total green-tea shipments, 187,500 pounds were of the famous Loongching brand and 26,900 pounds of Pingsuey, together valued at $59,350.10, the rest being of Fychau tea from Anhui.

The continued depression in the Chinese tea trade is causing the tea-guild managers to cast about for some of the reasons for it; but whether there will be anything done that will be of actual benefit to the trade remains to be seen. The constant increase in the sale of Indian tea in spite of the fact that it costs more to produce the Indian leaf seems to show that it would do little good for China to improve its method of producing tea, although many improvements and economies are not only possible but seem to be necessary for the survival of the business. It is probable, however, that modern ways of handling the tea after it is produced and a more vigorous campaign in behalf of the mild Chinese tea as compared with strong Indian tea will have beneficial results, and the more progressive tea people in this part of China are working to that end.

GEORGE E. ANDERSON, *Consul.*

HANGCHAU, CHINA, *February 16, 1905.*

ELECTRIC CABS IN BUENOS AIRES.

(*From United States Minister Beaupré, Buenos Aires, Argentina.*)

The Compañia Alemana Transatlántica de Electricidad (the German Transatlantic Electric Company), with head offices in this city, one of the strongest companies of its kind in the world, controlling the electric lighting and the street railways of Buenos Aires and suburbs, has decided to utilize its great plant in an endeavor to supplant with electric vehicles the 3,000 cabs of this city. Mr. Mauro Herlitzka, the manager, informs me that his company intends ordering 100 electric cabs by way of experiment, and that he is thoroughly convinced that the demand will be such as to warrant a considerable increase at an early date.

The vehicles will be mainly of light landaulet pattern, as best fitted to the climate and in order not to depart too far from the style of light victoria that has proved so successful in the present cab service. During one of my conversations with Mr. Herlitzka I showed him the catalogue of an American firm that makes landaulets; these, he remarked, were too heavy and evidently intended for the cold winters of the north. The style of vehicle he prefers is of similar pattern, but cut lower on the sides, with lighter top, and generally lighter construction. At present his preference seems to be for French coach work and German electrical machinery; but, though buying for a German company, he is unprejudiced, I believe, and determined to secure the vehicle that best suits the conditions of climate, etc., and would be glad to confer with any American manufacturers and to consider tenders from them.

It is not my only object to call attention to this new venture as an opportunity for our manufacturers to contract for a number of carriages, but to emphasize the fact that there is a field here for electric vehicles. The city, like the country, is absolutely flat; the streets, though narrow, are well paved with wood and asphalt; and, as there are no country roads suitable for touring, the use of motor carriages is confined to the city. Consequently the electric vehicle is coming into greater favor every day. Pleasure driving is general, and here, as in all Spanish countries, the slow and stately "corso" is the one diversion that is indulged in at least three days in the week. The gasoline car, difficult of control and chafing under restraint, is thoroughly unsuitable for these conditions. I feel no hesitancy, therefore, in predicting a great future here for American electric carriages, and think our manufacturers would do well to turn their attention more actively in this direction. To this end it will be necessary for them to establish individual agencies to carry in stock all the parts of the machines, for until one is assured that he can have missing or broken parts replaced without the delay involved in sending to the United States our manufacturers can not hope to make sales here.

I further believe that a line of cabs, such as the German Transatlantic Electric Company intends inaugurating, could be established in this country and prove a successful investment for American capital. For this purpose I would suggest vehicles of the type, say, of the Columbia electric Victoria phaeton, mark XXXIX, and the Columbia cabriolet, mark XIX. The hood or top should be of extra length, long enough to reach well over the body of the carriage and to protect the occupants from the hot sun, and, on the few occasions when needed, from the rain. The latter of the two carriages mentioned resemble very closely the horse cab now universally used in this country. I mention cabs of Columbia manufacture because I have their catalogues at hand. I am sure that other manufacturers build carriages of similar and equally appropriate type.

A. M. BEAUPRÉ, *Minister.*

BUENOS AIRES, ARGENTINA, *March 16, 1905.*

PRICES OF GROCERIES IN 1814 AND 1905.

(*From United States Consul Halstead, Birmingham, England.*)

The current number of The Grocer publishes a communication from Mr. J. T. Kidson, of the firm of T. Kidson & Sons, of Willenhall, Staffordshire, quoting from an old price list sent to his firm in 1814 by Messrs. Travers & Co., of London, and giving a comparison of prices of groceries in the years 1814 and 1905. The Grocer has selected from the list for examples mainly articles which were imported in 1814 and which, with two exceptions perhaps, are still imported. The high prices in 1814 may have been due in part to the great cost and risks attendant upon ocean transportation before the days of steamships.

Prices of groceries in England, per pound, in 1814 and 1905.

Commodity.	1814.		1905.	
	English currency.	American equivalent.	English currency.	American equivalent.
Tea	7s. 2d. to 11s.	$1.74 to $2.68	1s. 8d.	$0.40
Coffee	2s. to 2s. 9d.	.49 to .67	1s. 8d.	.40
Lump sugar	1s. 4d. to 1s. 6d.	.32 to .36	3d.	.06
Raw sugar	11d. to 1s.	.22 to .24	3d.	.06
Figs	11½d.	.23	4d.	.08
Raisins	9d.	.18	5d.	.10
Sultanas	11½d.	.23	6d.	.12
Rice	5d. to 8d.	.10 to .16	2d. to 3d.	$0.04 to .06
Mustard	1s. 8d.	.40	1s. 4d.	.32
Starch	9d.	.18	3d. to 4d.	.06 to .08
Saltpeter	11d.	.22	5d. to 6d.	.10 to .12
Treacle	5d.	.10	2½d. to 3½d.	.03 to .07

MARSHAL HALSTEAD, *Consul.*

BIRMINGHAM, ENGLAND, *March 28, 1905.*

THE "AMERICAN DANGER" AS SEEN IN GERMANY.

(Prepared in the Bureau of Statistics from the original.)

"The American danger" is the title of an article in the Preussische Jahrbücher, April, 1905, by Privy Councillor Ludwig Max Goldberger, the author of "The Land of Unbounded Possibilities," which appeared about two years ago as a result of a six months' sojourn in the United States and attracted a good deal of merited attention, both in Germany and in other European countries. Speaking of the leading generalizations of his earlier work, Mr. Goldberger says:

My statements formed a faithful summary of what I had seen, heard, observed on the other side, and continued to follow with close attention after my return. I tried to combine unbiased observation with impartial judgment. In presenting, as it were, the strong and weak points of the American economic inventory, while acknowledging the incomparable natural resources of the New World, the superior intelligence and sure aim of its inhabitants, as well as the various advantages resulting from the absence of hampering traditions, the net balance of my observations may be formulated as follows: It is unbecoming to proclaim too anxiously the "American danger;" it is unwise to display such timidity and thus strengthen the self-confidence of our competitors, who can not be said to suffer from self-detraction; it is unreasonable to assert, as is done so frequently in endless variation, the imminence of an "American danger," in the sense of an impending economic subjugation of the Old World by the United States, provided we do not cease to develop our commercial and industrial gifts and are not afraid of learning from our competitors when necessary. Even granting that the Americans excel us at times in the organization of their business enterprises, in commercial resourcefulness, speculative ardor, and quickness of decision, there is still no reason to fear that we shall be overrun by the United States.

The author points out the present financial weakness of the trusts, the high wages, due in part to high cost of living, and the power of organized labor, in which he sees a most hopeful factor in curbing excessive exactions by monopolistic industrial organizations. He makes light of the fear that the trusts, profiting by their monopoly in an absolutely protected domestic market, might attempt the conquest of foreign markets by selling their wares below cost. Such a policy, he thinks, would in the long run endanger their protection in the home market. In case of conflict with the labor organizations the corporation managers must always reckon with the possibility that the workmen, every one of whom has the franchise, may lose faith in the prohibitive tariff system. It is this consideration which, in Mr. Goldberger's opinion, will normally keep the trust managers from excessive warfare against labor organizations. For, as he says, they can not afford to "risk battle at two fronts. It is true that the danger of such a battle is not yet imminent."

The "death struggle" of German industry against American competition is as yet a bugbear. In 1901–2, for example, America exported 3,966,766 pairs of shoes,[a] but of these only 122,689 went to Germany—that is to say, 3.1 per cent. In 1902–3 the number rose to 189,198, but in 1903–4 it fell to 166,606, and in the calendar year 1904 it was only 124,591 pairs, valued at $291,177. Surely not an alarming figure for a population of nearly 60,000,000.

Neither is there any cause for alarm in the investment of American capital in Germany. English capital used to come to Germany, to the great advantage of the latter. German capital goes to America, and is welcome there. The increasing importation of American mechanical tools and implements into Germany simply proves, in the words of the American consul-general, the "vitality of the German market" and the expansion of the German manufacturing industry. On the other hand, foreigners, especially Americans, do not hesitate to admit Germany's superiority in important branches of mechanical construction, such as shipbuilding, due to scientific training.

To arrive at a sound conclusion, one must compare not special branches, but leading industries which affect the entire national production. Take the iron industry. In iron ore, as well as in pig iron, the British production from 1890 to 1903 remained almost stationary, while that of America and that of Germany doubled. From 1880 to 1903 the consumption of cotton in England increased 6 per cent; in the United States, 107.7 per cent; in France, 146 per cent; in Germany, 170.7 per cent. The deposits in savings banks in the United States amount to $37.38 per capita; in Germany, to $39.38; in Prussia, to $43.10. While the electrotechnical industry in the United States operates under far greater natural advantages than in Germany, yet the leadership in the world markets is shared by the two countries. Instead of wasting their forces in competition they have concluded to strengthen each other by exchange of experience and of scientific discoveries, as instanced by the agreements between the two powerful electric groups, the "Allgemeine Elektrizitäts-Gesellschaft" in Germany and the "General Electric Company" of the United States. As to the assertion that the best industrial securities of Germany are in the hands of Americans, it must be remembered that Americans need their money for investment in their own land. Occasionally, indeed, they may buy German securities, but it happens much more frequently that German capital cooperates in great financial transactions in America.

America is economically strong, no doubt, but so are we. We need not fear a vigorous competitor. America is one of our best customers, and hence we need not fear its progress which increases its purchasing power, but rather its decay. No merchant ever complained of the increasing prosperity of his customer. Just so the Americans look on our economic expansion without envy, because we are among their best customers.

[a] According to the official returns of the Bureau of Statistics, Department of Commerce and Labor, the exports of boots and shoes from the United States for the fiscal year ended June 30, 1903, were 4,197,566 pairs, valued at $6,665,017, of which 189,198 pairs, valued at $337,093 went to Germany; in the year ended June 30, 1904, the exports were 4,642,531 pairs, valued at $7,238,940, of which 166,606 pairs, valued at $352,619, went to Germany.

There is only one "American danger," to wit, that the alleged weakness of Germany and the alleged invincibility of America may be harped on so persistently as to lead the German consumer in the end to the conclusion that the foreign article is in every way superior to the domestic and to rob the German producer of his best weapon in the economic contest—the faith in his own strength and capacity.

Germans were greatly impressed when the United States Secretary of Agriculture in 1904 announced that the American agricultural products in the fiscal year 1904 reached a value of nearly 5,000 million dollars. They did not consider that in 1902 the farm products of Germany amounted to over 2,000 million dollars, a remarkable figure considering that the area of Germany is only one-seventeenth that of the United States. As regards the alleged freedom from military burdens, a statement recently published shows that the regular expenditures of the American Navy even now exceed those of Germany by nearly two-thirds, and, in view of the general demand for a stronger navy, will soon amount to twice that amount and even more.

The author concludes with a plea for a more active interchange of commercial and industrial ideas between Germany and America. If Yves Guyot's proposed central bureau for American commerce in Paris is a good thing for the United States, it is hard to see, he says, why a similar bureau in New York might not be a good thing for German trade in America. An important step in that direction has in fact been taken, inasmuch as a large part of the German industrial art exhibit at St. Louis was purchased by Mr. John Wanamaker to form the beginning of a commercial museum in New York.

AMSTERDAM IMPORTERS OF AMERICAN PRODUCTS.

(Extract from the annual report for 1903–4 of United States Consul Hill, Amsterdam, Netherlands.)

The following reliable list of principal firms importing American articles at Amsterdam has been prepared by Mr. Elco M. Vis, of the Crediet Reform, one of the leading credit associations of Amsterdam:

Tobacco.—Henri Dentz, Brusse & Gransberg, Schaap & Veen, W. Ankersmit & Co., B. H. Manus, Driessen van Ommen & Co., G. Harkema, Amsterdamsche Tabakshandel Maatschappy, Oscar Rothe & Jiscoot's Tabakshandel, H. Oldenkott & Zonen, J. van Antwerpen, de Block & Co., Gebr. Fleck & Co., E. Heckman & Co., Herschel Enthoven & Co., Havana Import Company, Klomp & Co., A. Mayer & Co., Louis Neuberg & Sohn, Scheltema & Co., Sickesz & Beerman, J. H. Lieftinck & Zonen, P. de Vries & Zoon, P. de Bruyne, Reyffert & Stolz, J. A. Kluytenaer, Jacob Ankersmit & Zoon, B. W. de Jong & Co., J. H. A. Gebing, H. L. Rosenfeld, Alting Pappenheim & Co., B. Augustyn & Co., Creemer & Heeren, Gröning & Co., Helling & Sanders, Köhler Muller & Co., Laarman & Co., W. Lehmann, Minnigh & Co., A. J. Reynvaan, Moritz Seelig Sohn, F. A. von der Breggen, Nienhuys & Hesterman.

Bicycles.—M. Adler, J. Witmondt, Amerik. Agentuur and Commissiehandel J. Koopmans & Co., Augustinus & Witteveen, Hugo

Brandt & Co., J. Leonard Lang, M. van Genderingen & Co., A. Drukker & Co., W. J. Wesling.

Machines.—Figee & de Kruyff, J. H. L. Smits & Co., Landré & Glinderman, G. Dikkers & Co., R. Ide, Kiderlen & Co., Ch. R. Kouveld, Visser's Landbouwkantoor, Peck & Co., Geveke & Co., P. C. Muller & Co., van Burkom & Son, D. S. M. Kalker, Corn Koning, jr., Julius Lüchau, W. C. & K. de Wit.

Typewriters and sewing machines.—Klisser & Citroen, Singer Manufacturing Company, H. Brückmann, Heyenbrock Haselager & Co., Benier & Co., Ferd. Stieltjes & Co., Naaimachinenhandel voorheen A. Leeuwenstein.

Hardware.—Van der Berg & Co., Höweler & Co., W. F. Weyntjes, Gebr. van Leer, Smit & Blok, Bouvy & Philippens, A. Gunckel & Zoon, J. G. Leeuwenberg & Zoon, A. H. Rodrigues, A. J. van Yzer, Gunter & Meusers, Hauseman & Hötte, Joh. A. van Laer, Ch. van Messel, W. Bernet & Co., Deckers & Crielaers, Wed. J. T. Hunck & Zoon, W. Petersmann & Co., Wynbeek & Stants.

Flour and grain.—Bulsing & Heslenfeld, J. A. van Eerden & Co., H. Giesen, H. F. Osieck, J. Tas Ezoon, Hey & Biller, M. Luchsinger & Co., Glazener & Co., Amsterdamsche Haatschappy "Cerealis," N. V. Importhandel voorheen C. Moerbeek, Amerikaansche Agentuur and Commisiehandel, J. Koopmans & Co., J. R. Arrias, Bos & Kesterman, L. Hoyack & Co., S. & W. Birnbaum, J. C. Grotjan, J. J. Nye, Smit & Amesz, M. Witsenburg, jr., P. E. Kupfer & Zoon, Von der Zee & Grippeling, Gerhard Polak, P. C. Vis & Co., J. J. Bolten & Zoon, G. von der Horst & Zoon, Polak van Steenwyk.

Leather.—J. Beuns & Zoon, S. de Leeuw & Zonen, H. P. Belt & Co., Kalker Norden, Pagès & Co., M. A. Levie, M. Levenbach, G. Gompen, W. P. van Beugen & Co., Gebr. Kloostermann, M. L. Rosenberg, B. de Vries & Zonen.

Chemical productions.—Gust. Briegleb, Pharmaceutische Handels Vereeniging, Twentsche Chemicalien Handelsvereeniging, Th. W. Sanders & Co., Oldeboom & Lely, Van Biema Nykerk & Co., Schmaltz & Werlich.

Furniture.—J. F. Fürstner & Zoon, J. H. Haag & Zoon, Gebr. van Houtum, Meubileer Inrichting "Phoenix," Vos & de Vries, D. Vreedenburg & Zonen & Reens, N. le Grand, J. B. Hillen, H. F. Jansen & Zoon, H. Pander & Zoon, Benier & Co., American Trading Company.

Organs.—M. Breebaart, G. A. Goldschmeding, P. van Leeuwen & Zoon, D. M. Louis, C. C. Bender, G. Kettner, Duwaer's Pianohandel, J. J. Nissen.

Bacon, lard, etc.—J. B. Dievelaar & Co., H. G. Scholten & Co., G. Stronk, J. & B. H. Klasen.

Sugar, honey, etc.—Busker & Claus, F. Greidanus & Zoon, Gebr. Sickesz, Wed. W. Wieffering, C. H. Ditmar & Zoon, Meyer & Van Essen, E. E. Visser & Zoon.

Paper.—Wed. H. Bontamps, Van Gelder & Zonen, A. Palm & Zoon, Gerhard Loeber, C. G. A. Corvey, Lutkie & Smit, P. Proost & Zoon, Wysmiller's Papierhandel.

Oil. F. Alberdingk & Zonen, Wed. J. E. de Boer, jr., & Zoon, G. Hulsteede & Zonen. D. Kruysmulder & Zoon, G. Boele & Zoon, Peter Hamel, Jansen & Bon, Louis von Son.

Dried fruit.—Campen & Co., Louis Hirsch, Gebr. Catz, Velleman & Tas, Hoepelman & Erwteman, J. Tas Ezoon, P. C. Vis & Co., Gebr. Warendorff, J. A. van Eerden & Co., J. Goldschmidt & Zonen.

AMSTERDAM HOUSES ENGAGED IN DUTCH INDIA TRADE.

The following list embraces the leading Amsterdam houses engaged in trade with the Dutch East Indies:

Handelsvereeniging voorheen Reiss & Co., Koning Teves & Co., Siebert & Co., Exportnaatschappy voorheen B. van Leeuwen & Co., Nederlandsche Handelmaatschappy, van Eeghen & Co., Kruseman & Hooft, Handelsvereeniging Amsterdam, Handelsvereeniging Java, Handelsvereeniging Holland, Buisman & Brands, J. G. van den Berg & Co., Generale Maatschappy voor den Handel met Nederlandsche Indië, Maatschappy voor uitvoer- en Commissiehandel, Gebr. Veth., L. Wurfbain & Co., Matthes & Bormeester, Stibbe & Co., Moluksche Handelsvennootschap, Handelsvereeniging Gorontalo, Crediet- en Handelsvereeniging Banda, Drost & Kappers, J. Kogel, Handelsvereeniging Holland-Bombay.

NEED OF STUDYING FOREIGN TRADE CONDITIONS.

(From United States Consul Harris, Mannheim, Germany.)

CHANGING FOREIGN FOR GERMAN MACHINERY.

The dismantling of foreign-made machinery put into a large, recently built factory in this consular district at much expense, and the introduction of a wholly different type of machinery, points a moral that has been worn fairly threadbare in consular reports. The moral is the need of a comprehensive study of foreign markets by those who would trade in them. In the case in question the first set of machinery was excellent. It was probably, under proper conditions, better than the machinery now installed, but, unfortunately, it uses a raw product obtainable in Germany only by importing from a long distance and at much expense, while the new type of machines operate with a raw product obtainable close at hand and at lower cost.

SMALL AND LARGE FACTORIES.

In the nature of things there was but one chance for profit, and that was in driving out a considerable number of small concerns and in effecting trade agreements with the remaining manufacturers in the same line. It was at this point the enterprise failed; it could not succeed under existing conditions.

Combinations in Germany in certain branches of manufacturing have been shown to be entirely feasible. The tendency to consolidate forms one of the conspicuous features of trade in the Empire; but it by no means affects all branches alike. German manufacturing extends into every village and along every stream. It enlists thousands of men of small capital who are content with modest earnings and who neither seek combinations nor are dismayed by threats of them on the part of others. This is especially true in the commoner

branches, in which the work is, or can be, largely done by hand or inexpensive machinery. The number, size, and distribution of these smaller concerns is often such as to give them considerable influence in manufacturing. This was true in the case in hand, and was doubtless one fact not fully reckoned upon. The relatively greater difficulty of embarking in a new enterprise tends to make the manufacturer slow to give up even an unprofitable business which may have been in the family for two or three generations.

German manufacturing is in no small degree influenced by the system under which practically all farmers live in the towns or villages, and thereby puts close to these village factories a large body of cheap labor of both sexes, which in the United States, for example, has no counterpart. This labor engages readily in the manufacture of the cheaper grades of cloth, paper, glassware, stoneware, matches, cheap jewelry, toys, leather, paper boxes, cigars, cheap agricultural implements, wrought-iron work, low-priced shoes, etc. The rapid introduction of better agricultural machinery is reducing the number of persons required in the fields and adding to the ranks of the manufacturing classes. Improved machinery, even in these smaller concerns, is increasing their productiveness and increasing their influence in the home and foreign markets.

MARKETS FOR AMERICAN MANUFACTURES.

It would be wholly incorrect to say that the two classes of factories—the larger ones in the cities and the smaller ones referred to—cover the whole field of manufacturing, leaving no place to the exporter to Germany and its neighboring States. On the contrary, a valuable market remains to the American manufacturer even in Germany, but it is limited in scope, and the tendency doubtless is toward further narrowing. The market is for excellent reasons open to a considerable list of manufactured articles widely sold throughout the Empire. It is barred to a long list of articles simply because the cost of making here excludes foreign competitors. The American manufacturer or exporter must determine to which list his wares belong. Two questions of importance confront him: What class of goods does a foreign market require? At what price does the native manufacturer make these goods, if at all, or at what price can he make them if a demand should be created?

The consensus of consular opinion taken recently on the market for windmills in Germany was that the present demand is not large; that it might be increased, but that, if it were increased, the German manufacturer would be amply prepared to supply the demand. Doubtless a like opinion would be given in many other cases where our manufacturers believe that Germany should offer a good market for their wares.

That all Europe imported last year but a single American locomotive is not altogether disheartening in the face of the fact that 516 of our locomotives went to other foreign markets, a marked gain over the 287 exported in 1903. The fact itself, and especially the statistics of this branch of export, are suggestive as showing a gain in popularity for American engines, but a geographical shifting of the market for them. The recent sales in Japan, in Mexico, in Canada, in South America, in China, etc., doubtless represent much intelligent effort directed to the study of railway and other conditions in the respective countries. It is inconceivable that the sales could have been made without such study.

As the great manufacturing nations prepare to supply their own demands and force trade into other fields where manufacturing is less developed, the importance of accurate knowledge of trade conditions in such fields will become more and more apparent.

H. W. HARRIS, *Consul.*

MANNHEIM, GERMANY, *March 16, 1905.*

AMERICAN TRADE WITH PERSIA.

(From United States Vice-Consul-General Tyler, Teheran, Persia.)

A statistical report of the Persian foreign trade for the fiscal year ended March 20, 1904, has been recently published by the ministry of customs at Teheran. It is interesting, as being the first in which the United States has been formally recognized as one of the countries trading with Persia. This may be taken as an indication that the industrial productions of the United States have reached a sufficiently prominent position to merit classification and to justify the expectation that they may be a permanent factor in the commerce of the country. The list given, in which a beginning has been made and some progress attained, will supply information as to what goods have already found a market. If England, Russia, and other European and Asiatic countries find the Persian trade profitable, there is no reason why the United States should not make it a field for commercial enterprise.

Considering the favorable rate of freights and speed of the Atlantic liners, the difference in distance and cost of transportation need not be a serious disadvantage in determining the ultimate price of goods when placed in the Persian bazaar. If American producers can undersell their European competitors in European markets, it seems only logical to suppose that they can at least maintain an equality in the Persian field. If American manufacturers labor under a slight drawback, on account of distance to this section of Eastern trade, it is largely discounted by the improved means of production and the immediate

presence of raw material. Especially is this the case in most kinds of dry goods, silver plated and iron wares.

In order to give an impulse to this enterprise, it seems that our manufacturers and merchants should relax somewhat the hard and fast rules which characterize their home and European trade. Credits, sales, and bills of exchange, where new centers have to be established and fresh regions exploited, should be accorded a certain elasticity to meet untried conditions. This need not, with proper and watchful management, mean a pecuniary loss to the parties interested. It is, however, a very necessary condition in any attempt to divert business that there should be implicit confidence between the producer and the importer, and an acceptance of a mutual share of the risks as well as of the profits. A year's training would adjust inequalities, remove misapprehensions, and make concessions and support on either side easy and agreeable.

At present there are so many posts of observation that any vacancy in the supply of the old or demand for novel makes is apt to be very quickly met. It is no answer to say that such and such goods are the best suited for the particular need, unless some attempt be made to produce them. The best test of suitability is the preference of the purchaser. The phrase, "the best in the world" has no meaning so long as the goods remain in the manufacturer's show rooms or are distributed only for local consumption. The proof of the trade cry is manifest only when the articles are brought into comparison with others under similar conditions of trade and an equality of price. Quality is not always or even often the determining factor in the Persian market and Persian store, but rather a superior quality at the average market price. It can not be too strongly insisted that something more tangible than illustrated catalogues or price lists is necessary to induce business. Merchants and storekeepers, to whom these advertisements of general or particular classes of goods are shown, tell us to bring samples of the goods which in their catalogues seem so desirable. There is, no doubt, much reason for these expressions of common-sense business methods, for frequently what appears attractive in print is often considerably discounted when brought under the scrutiny of sight and touch. In the following table the imports into Persia, in which the United States participates, are given in detail, the total imports into Persia and the imports from the United States, and the value of the imports into Persia in which the United States has no share.

In reducing Persian into American currency I have estimated 12 *krans* as equal to $1.

Imports into Persia during the year ended March 20, 1904.

Articles.	Total imports into Persia.		Imports from the United States.	
	Quantity.	Value.	Quantity.	Value.
IMPORTS IN WHICH THE UNITED STATES PARTICIPATES.	*Pounds.*	*Dollars.*	*Pounds.*	*Dollars.*
Canned butter	22,276	3,068	176	23
Cocoa	2,235	990	26	18
Flour products	21,564,673	389,283	1,781	38
Biscuits	46,267	4,178	52	12
Preserves	27,807	3,910	78	17
Drugs	1,727,596	143,010	5,759	2,895
Goloshes and mackintoshes	76,133	51,803	3,920	502
Oilcloth	29,699	3,361	150	44
Clothes	.....	67,838	.....	52
Oils, mineral, including petroleum	16,925,291	244,090	20,391	325
Organs, pianos, harmoniums	.....	2,623	.....	100
Other musical instruments	.....	4,755	.....	159
Scientific instruments	.....	1,716	.....	46
Metals and their products	4,047,504	56,521	195	31
Hardware	3,333,226	239,708	1,632	253
Enameled goods	203,684	37,226	2,217	879
Nickel goods	19,844	7,721	.....	8
Gold, silver, and platinum goods and ingots	278,369	2,090,633	68,744	522,171
Aluminum and other metals	16,588	5,723	58	69
Metal goods not specified	6,181	4,494	812	458
Cotton goods of all kinds	38,617,104	11,065,107	3,581	913
Mixed linen and cotton goods	671,326	342,595	1,358	683
Jute goods	26,078	2,659	13	64
Mixed silk and cotton goods	170,677	354,505	.....	2
Silk goods	41,151	160,651	.....	4
Haberdashery	.....	368,068	.....	1,117
Furniture	26,117	4,343	52	9
Various articles of furniture	385,086	70,234	344	61
Mirrors, etc	689,851	101,380	13	4
Unspecified articles of furniture	.....	114,712	.....	346
Gold watches	.....	8,120	.....	169
Silver watches	.....	5,734	.....	84
Other kinds of watches	.....	2,672	.....	35
Paper	1,358,780	85,224	1,774	197
Wall paper	29,458	4,452	569	96
Furs	175,643	44,752	52	89
Leather goods	136,506	62,824	136	113
Photographs, journals, and reviews	56,511	13,620	1,755	159
Lithographs	17,530	4,253	32	15
Perfumed soap	55,932	10,314	188	47
Cigars	26	33	26	33
Cigarettes and prepared tobacco	62,543	22,920	2,398	1,138
Paints and colors	513,259	212,823	780	293
Glassware	1,520,902	123,836	65	12
Vehicles, including cycles and automobiles	24,784	74,165	52	792
Total imports in which the United States participated	.....	16,622,644	.....	534,595
Imports into Persia wherein the United States does not participate	.....	36,694,905	.....	.....
Total imports	.....	53,317,549	.....	.....

JOHN TYLER, *Vice-Consul-General.*

TEHERAN, PERSIA, *March 18, 1905.*

PROGRESSIVE LEGISLATION AND NONPRODUCERS IN NEW ZEALAND.

(From United States Consul-General Dillingham, Auckland, New Zealand.)

The secretary of labor recently sent to the minister of labor (Mr. Seddon) a report on high wages and their exploitation, which was laid on the table of the House of Representatives by leave. It states that it may fairly be said without boasting that the industrial conciliation and arbitration act of New Zealand has drawn the attention of the

civilized world to the progressive legislation of this colony. The very large number of inquiries made of the labor department by the people in America and Europe, combined with the extensive literature relating to the subject of its laws recently published abroad (particularly in the United States) are proofs of how widely the subject engages the attention of persons occupied in the study or administration of socio-political matters, and that it therefore will be little short of a world-wide calamity should anything cause false inferences to be drawn from the effects or results of institutions working under any but fair and impartial conditions.

The secretary says the New Zealand arbitration act is not working under such conditions, nor is its beneficent power available to the full in the cause of public utility. The work of the court is being neutralized by malignant collateral action. It is in the position of a single regiment or division of an army sent far into the enemy's country without reserves or supports. Or, to use a still closer metaphor, it is like a fair edifice, the foundations of which are being destroyed by cunning miners working from every side. The general effect of the act has been, the secretary says, to benefit the whole community by insuring to the employer stability of business and output, to the worker higher wages and shorter hours, and to the general public that continuity of trade and business which was formerly too often dislocated by the mischievous waste of strikes and lockouts. These results, he says, have been of great advantage to the whole colony, as the great prosperity shown by every indication of the economic barometer denotes. Such effects are, however, rapidly becoming neutralized, and soon only the empty shell of an apparent prosperity will be left if the unbridled covetousness of a few be not regulated and checked.

Some of the necessaries of life cost more than in former years and their price is rapidly advancing out of all proportion to the rise in wages of the producers. Of course the rise in wages given by the arbitration court to certain classes of workers is asserted, by some, to be the reason for the increased cost of articles and services, but this argument runs in a vicious circle, for it is the increased cost of necessaries which has caused the concession of higher wages. There has been no fair ratio between the rise in wages and the rise in prices. The fact is there is a third man in the game besides the employer and employee, and it is this third man—the nonproducing ground landlord of city and suburban property—who alone will be the winner in the end.

The chief devourer of the wages of the worker and of the profits of the employer is excessive rent. That an equitable payment for the use of land and dwellings should be made to their owners is, under the present constitution of society, proper and desirable, but a greedy, rack-renting system, which transfers gradually almost the whole earnings of the industrial and commercial classes to the pockets of the

nonproducer, is indefensible. It partakes of three characters—it is unauthorized taxation by private persons, it is tribute to a conqueror, and it is the ransom of a captive. In Wellington (and in Auckland, too) rents have not only increased during the last ten years, but they have done so in an utter disproportion to earnings. It is difficult for a clerk or foreman at $1,217 a year to get a decent house under $7.30 a week, which means about one-third of his income. A laborer earning (taking wet days, illness, etc.) on an average $7.30 a week must pay at least $2.43 to $2.92 a week for a house; he, too, finds that a roof over his head costs one-third of his income. This may be accepted as a general rule in the capital city, viz, one-third of the income goes to the landlord. The shopkeeper, who by industry and capability improves his business and enhances the value of his holdings, discovers as soon as his short lease expires that if he wishes renewal he must sacrifice the profits of his business. In a certain southern city there is a striking instance of this process. A small piece of land, now in the center of the town, was bought many years ago (almost by chance) for a person living in England, who paid $243 for it. That person has drawn $3,893 a year from it for twenty years, and now receives $9,733 a year therefrom. The tribute levied on the struggling colonists of New Zealand by this absentee would, if capitalized, "stagger humanity." It represents no honest profit on investment.

Necessaries, such as meat, bacon, eggs, coal, firewood, etc., have also risen in price considerably, and have helped to minimize any advance in workers' wages. These, however, are more defensible in their deductions than unfair rentals, because some part of the profits made in such cases goes to producers. Unfortunately for the operative or laborer, he is seldom the owner of the means of production, and the point he is made to realize is that mutton is far more costly than it was ten years ago, while the increased checks for frozen meat, freights, commissions, etc., do not come his way. Nevertheless, a certain number of his class are employed in the production or distribution of meat, and therefore advances in its price do not stand on the same footing as those of ground rents. Even the farmers indirectly suffer by such mulcting of wages, for less farm produce is consumed when the spending power of the masses is checked and directed aside into private banking accounts of the owners of city and suburban lands.

With the above consideration in mind, the secretary very earnestly asked the Government to take into consideration the question of legislating for the acquirement of suburban lands and the housing of the citizens. Whether such consideration should take the direction of State or municipal control of compulsorily acquired properties the secretary did not presume to suggest. Some scheme having for its determination the breaking up of the land ring, however, in the opinion of the secretary, should be earnestly pondered over. Just as a

well-known European acquired by an Imperial ukase possession of petroleum wells, and so controlled the market in order to prevent the cupidity of individuals destroying the transport service, etc., of the Empire (carried on by oil-burning steamers), so in New Zealand there is, the secretary opines, reason for the State to interfere to prevent the exploitation of its citizens and the draining of the earnings of the community into the possession of a few private persons.

The secretary thinks it is beyond doubt that the advantages bestowed by progressive legislation are gradually being nullified and will eventually be destroyed by certain adverse influences, and therefore those influences must be sought out and neutralized fearlessly and effectively in the interests of all classes of workers, i. e., of the vast majority of the citizens of the colony.

F. DILLINGHAM, *Consul-General.*

AUCKLAND, NEW ZEALAND, *February 8, 1905.*

GERMAN MACHINE INDUSTRY.

(From United States Consular Agent Neuer, Gera, Germany.)

In accordance with the general upward movement of other industrial branches at the close of the last century, the German machine industry has materially developed. During a comparatively short time many new works have been erected and old plants have been enlarged. Likewise their capacity has been increased by the application of quick-turning tools and through better working methods, so that their total capacity is estimated to have more than doubled since 1890.

The home consumption is very far from being in a position to take up the entire German production. Moreover, the prevailing unfavorable economic condition is rendered more severe by the fact that the crisis, owing to the introduction of large gas motors and steam turbines, has not yet fully subsided. As a consequence, many works are forced to resort to new branches and to continually expend large sums for trials and tests. Furthermore, it is stated that the new commercial treaties will prove a great drawback to the exportation of German machines. Also, fears are entertained that the strike of the miners in Westphalia will unfavorably influence the working people of the machine industry and render the relations between employers and employees more and more disagreeable.

According to a report of the United German Engine Manufacturers, numbering about 160 of the most prominent makers, the value of the total exports of machines from this country in 1904 amounted to about 259,000,000 marks ($61,642,000), which amount is expected, however, to experience a considerable reduction by the new commercial treaties. For this reason a strong coalition of all machine manufacturers is

suggested, with the object of effectually taking care of the interests at stake, as is done now in the case of the coal and iron interests. To insure success for every branch, the formation of groups with equal producing capacity is advised. Besides, special efforts are recommended toward attaining more advantageous commercial treaties with the United States, England, and Argentina. To show the disparity between the tariffs of the different nations, it is asserted that, for instance, a steam engine of 3,000 horsepower and of a value of 230,000 marks ($54,740) is subject to a duty of 9,149 marks ($2,177.46) when introduced into Germany. When exported, however, to Austria a duty is charged thereon of 39,994 marks ($9,518.57); to Russia, 110,000 marks ($26,180); to Italy, 25,000 marks ($5,950), and to Switzerland 10,456 marks ($2,488).

CHARLES NEUER, *Consular Agent.*

GERA, GERMANY, *March 13, 1905.*

ELECTRIC LIGHT PLANT AND TRAMWAY IN DAKAR.

(From United States Consul Strickland, Gorée-Dakar, Senegal.)

I inclose three leaves from the "Journal Officiel" of Senegal,[a] which contain a description of the requirements for an electric light plant and a tramway service for the new city of Dakar, a place which in 1878 had only 1,556 inhabitants, but which is now a city with a population of 23,452, of whom 1,268 are Europeans, exclusive of the military and naval forces. Good water has been introduced into Dakar, and sewer pipes are now being laid. The work on the port is progressing rapidly. It seems to me that Dakar will contain 60,000 inhabitants, if not more, inside of ten years.

I am sorry to add that I do not think Americans can take much part directly in these improvements, because they have not the means of getting here with the things which are needed, except through Europe, and that is too great a handicap. Foreign steamers are not run primarily for our profit or convenience, and those who think they are have much yet to learn.

This country is rapidly developing, but Americans have no part therein, because they have no direct communication wholly under their control.

PETER STRICKLAND, *Consul.*

GORÉE-DAKAR, SENEGAL, *March 18, 1905.*

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[a] On file in the Bureau of Statistics, Department of Commerce and Labor.

DYNAMITE OUTPUT IN MEXICO.

(*From United States Consul-General Parsons, Mexico City, Mexico.*)

The Mexican Herald of April 14, 1905, is authority for the report that through a series of explosions at the plant of the National Mexican Dynamite Company near Gomez Palacio, in the State of Durango, the output of dynamite in the Republic has been curtailed for a period of probably three months. This company is, it will be remembered, enjoying an immunity from six-sevenths of the internal consumption tax of $210 Mexican silver per ton on explosives, and thus controls the situation. In cases of short supply, however, the Government reserves the right to suspend the collection of this internal consumption tax, leaving only the duty of $30 per ton Mexican money to be paid by importers. The company's supply on hand, consisting of 700 or 800 tons, may not be sufficient to supply the demand until the necessary repairs are made.

The first explosion occurred April 10, said to have been due to the carelessness of one of the employees, and the second, on the following morning, is said to have been the direct result of the first. By the second explosion the duplicate nitroglycerin plant, built especially to provide for just such a catastrophe as the first, was demolished. The material damage amounts to between $30,000 and $40,000 Mexican money.

JAMES RUSSELL PARSONS, JR., *Consul-General.*

MEXICO CITY, MEXICO, *April 14, 1905.*

LEGISLATIVE TRADE RESTRICTIONS IN GERMANY.

(*From United States Consul-General Guenther, Frankfort, Germany.*)

The Yearbook for 1904 of the "Elders of the Berlin Mercantile Guild" strongly complains of the inroads on the freedom of trade by legislative enactments and police regulations. An index (covering 6½ pages in small type) of the regulations officially published and put in force in Berlin during 1904 is appended to the Yearbook. There are 43 separate laws or police orders on "food articles," of which 27 relate to the meat-inspection law, the selling of meat in Berlin, sanitation of the Berlin cattle yards, the slaughtering of horses, donkeys, and mules, disposing of diseased meat, etc., and 16 relate to dairy products, wine and other liquids, dried fruits, wheat preparations, etc.

During the year 1904 the executive committee of the "Elders" was busily engaged in attending to the complaints of persons who felt aggrieved. Their report does not deny the right of the State to act

upon economic matters, and it admits that some of the enactments are beneficial, but says "the industrial population is unanimously of the opinion that these numerous laws are very burdensome. Yet they increase from year to year."

At the convention of the German Commercial Diet (the central body of all chambers of commerce and boards of trade) the subject came up for discussion, and the delegate representing the "Elders" proposed the establishment of a central bureau, to be composed of practical men engaged in the production and sale of food articles, chemical experts in food stuffs, medical men, etc., to draw up regulations for investigating all food products and render expert opinions on them. Similar bodies have been organized by the manufacturers of chocolate and by the producers of potash and soda. A bureau of this nature would soon become an authority, and its decisions would be respected in the several trade branches, although it had no State functions or attributes.

The "Union of German Manufacturers and Dealers in Food Products," at their conventions held in Nuremberg and Frankfort, debated the matter and resolved to draft a code for classifying food products and to adopt trade regulations. The public authorities are not to have any influence in fixing this code.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *March 17, 1905.*

SUNDAY CLOSING IN SPAIN.

(From United States Consul-General Ridgely, Barcelona, Spain.)

The Spanish Official Gazette of February 5, 1905, published a royal order temporarily modifying the provisional regulations as to Sunday closing, in view of the numerous complaints that have been made against the strict enforcement of the present laws. As American legislatures, municipalities, and retail business people may be interested in the way Spain treats this question, I give below a list of the trades, industries, etc., held under the order to be exempt from the laws as to Sunday closing:

Hirers of bicycles and fancy dress (masquerading costumes); livery stables; domestic service; service in legally constituted clubs; sessions of the municipal authorities, rural police, and similar bodies; the Melilla (Africa) market; work in the workshops connected with the schools of art and industries; and public washhouses up to 11 o'clock on Sunday.

Notaries may legalize contracts on Sunday and employ the assistants they may require, it being considered that such work is not of a heavy nature.

MINING AND OTHER INDUSTRIES.

In the mines of the Compañía de Aguilas, in the mining district of Mazarron, work on Sundays must cease at 6 in the morning instead of at 12 on Saturday night. In the Barruelo mines only the necessary work entailed in opening one shaft in the upper group will be allowed. In the Beires mines ore may be extracted, the aerial cable attended to and repaired, and all the usual work carried on, excepting transportation of the ore, unless the cable be worked by either electricity or hydraulic power. In the mines owned by the North of Spain Railway Company all necessary repairs to machinery, pumping, and ventilating apparatus in the galleries, etc., will be allowed, provided that none but the absolutely necessary number of hands be employed; for the other employees work will cease at 6 on Sunday morning.

The Unión Resinera Española (resin combine) in the mountains of Soria; The Colonia Agrícola é Industrial del Duero (agricultural and industrial colony); policing and carrying out all necessary work on the Urgel irrigation canal, and factories for preserving vegetables are exempt.

In the paper mills of Mandollano in Guadalajara the only work that may be allowed is that connected with the hydraulic motor; work will cease at 6 on Sunday morning. In cement and lime works only the kilns will be allowed to be attended to; no work in the quarries will be allowed.

Factories for making extract of licorice, flour mills, ice factories, breweries, work in dredging harbors, and agricultural work are exempt. It is explained that cattle raising is not included in article 1 of the regulations; that necessary work connected with sowing, tilling, and gathering the crops, etc., are excepted by article 6 of the regulations, and that labor performed by the owner or tenant of the farm himself is not prohibited. Provision may be made for shoeing horses and attending to cattle in urgent cases.

The fishing industry and fish curing are permitted on Sunday by article 6 of the regulations. The sale of fish may be allowed in Madrid up to 2 o'clock on Sunday afternoon. In other towns distance from the coast and facilities of communication must guide the local authorities in the matter.

MERCANTILE TRADES AND AMUSEMENTS.

Fairs and markets which have always been held on Sundays or which may in future be authorized by the Government, on sufficient grounds, may be held on that day.

Billiard tables; horchaterias (places where certain kinds of sweet drinks are sold); dairies; places where cold cooked meats are sold; temperance bars; sellers of fried fish; booths where food and drinks

are sold in the neighborhood of shrines on occasions of pilgrimages; dealers in poultry, game, and lambs, up to 2 p. m.; bunshops; sellers of roasted chestnuts, and refreshment booths are exempt. Candy and cake shops may remain open up to 11 a. m., and sales may be made throughout the day provided assistants are not employed; groceries may also remain open all day on condition that the assistants are not made to work. Drug stores may sell drugs, but not perfumery. Flower sellers with fixed stalls may sell their wares up to 6 p. m. Cooperative provision stores and sellers of confetti, serpentines, and similar goods are exempt. Barbers and hairdressers may ply their trade up to noon. Hawkers may sell their wares, excepting such as are sold in stores which are not allowed to remain open on Sunday. Eating houses, female performers in places of amusement (such work not being considered heavy), and sellers of tobacco, stamps, and matches are exempt; but if tobacconists deal in other goods the sale of which is not allowed, a notice must be posted to the effect that such goods can not be sold on Sundays.

Lastly, and in accordance with the decision of the Institute of Social Reforms, the exception referred to in article 1 of the law does not prevent women and children from working in those trades that are granted exemption from Sunday closing, the wages of which are fixed by the law and regulations.

BENJ. H. RIDGELY, *Consul-General.*

BARCELONA, SPAIN, *March 9, 1905.*

EMIGRATION VIA BREMEN.

(From United States Consul Diederich, Bremen, Germany.)

FRONTIER CONTROLLING STATIONS.

In my report on last year's emigration to the United States via Bremen, I called attention to the fact that strenuous measures are taken to prevent undesirable emigrants from leaving Europe for the United States. Thus, the Prussian railroad authorities refuse transportation to persons coming from Russia, unless they are provided with passports, steamer tickets to an American port, and certain sums of money, and they must have their baggage disinfected and submit to examinations as to physical condition at one of the following inspection or controlling stations on the border—Bajohren, Illowo, Ottlotschin, Posen, or Ostrowo.

The number of these stations is to be increased, to put an end to various irregularities that have been discovered during the past season. It has been found that Russian emigrants, instead of crossing the German-Russian line and passing through one of the controlling stations

there, were brought over the Russian-Austrian border and transported via Vienna and Passau, or via Prague and Nuremberg, and thence by various routes to Antwerp to ticket agents of the Anglo-Continental steamship lines. In this way the object of the controlling stations was frustrated. In order to put a stop to these improper maneuvers, the German steamship companies, together with the Austro-American line, have concluded to have the entire frontier patrolled from Bohemia up toward the north. A controlling station is to be opened in Bingerbrueck, another is planned for Passau, and still another at some point between Prague and Nuremberg. The German Government is also taking an interest in perfecting this cordon of controlling stations in order to prevent the introduction of infectious diseases, and also to protect itself from pauper immigration. Last, though not least, such a strict surveillance all along the border is in the interest of bona fide emigrants, for the fact that 2,164 persons were rejected in 1904 at the inspections held at Bremen, under the supervision of the American consulate, and the further fact that of these not less than 913 had to be turned back on account of trachoma, shows very plainly that not all was done on the border that might have been done.

In my opinion the great majority of these rejected persons could and should have been told before they left their native country that, under the American laws of immigration, they could never hope to be landed in the United States. This certainly would have been more humane than to have these poor people, many of them with large families of children, after having disposed of their earthly belongings, bade farewell to their friends and humble homes, traveled on slow trains for a whole week to get to Bremen, to be told here that they must go back whence they came. There can be nothing more pathetic than to observe these unsophisticated people as they approach our physicians at the inspection flushed with anticipation of a brighter future, their faces set to the land of promise, and in view of the steamer for which they are ticketed, suddenly informed that for some physical disqualification they can not go. Such cases of cruel hardship will become less frequent, I trust, now that the work of inspection of emigrants on the borders of the countries which furnish the largest quota is to be improved.

The following incident will illustrate that the emigrants can not be inspected too carefully or too often. Some time ago a Russian woman passed along the line at the inspection. She was vaccinated on the left arm by one of the physicians. Her eyes were next examined, and she was about to be passed when the physician noticed a peculiar bundle under her right arm. When questioned as to what the package contained, she pretended she did not understand, and attempted to walk away. But the doctor insisted on her opening the bundle, and as she did so an infant came to view, about six to eight weeks old, covered

with marks of confluent smallpox. This woman had passed one of the controlling stations on the Russian border, and a few days later she had again been inspected at Ruhleben, near Berlin, and came very near being passed here at Bremen.

EMIGRATION IN 1905.

In the history of emigration via Bremen there never has been such a rush as there was during the first two months of 1905. The reports for the last three years show that the number of emigrants inspected and passed in the months of January and February of the years 1903, 1904, and 1905 was 22,886, 11,337, and 33,361, respectively.

A number of extra steamers sailed to take these emigrants, most of them Hungarians, to their destination. The *Main* carried away 3,000 steerage passengers—the largest number that ever left this or probably any other port in one vessel. From what I can learn this unusual exodus will continue for months to come and perhaps through the whole year.

HENRY W. DIEDERICH, *Consul.*

BREMEN, GERMANY, *March 21, 1905.*

STATE CONTROL OF ITALIAN RAILWAYS.

(From a report of Mr. Lister, counselor of the British Embassy at Rome, February 28, 1905.)

The most important problem before the Italian Government is that of the future administration of the railways.

In 1885 the Italian State railway system, which had until that date been managed and run by the State, was handed over to private enterprise to be worked by companies paying an annual rent to the Government. Contracts were made with these companies for a term of sixty years, but it was reserved to either party to denounce them after twenty or forty years. In a speech made in the Chamber of Deputies on March 25, 1903, the minister of public works stated that an experience of eighteen years had demonstrated that the contracts had not satisfied either party. While, on the one hand, the companies had not derived from them the profits which they anticipated, the State had been a heavy loser, and the way in which the railways had been managed made the continuance of the present conditions obviously undesirable. The contracts, therefore, could not be prolonged in their present form.

If, however, satisfactory arrangements could be concluded, the Government preferred the system of private enterprise to that of State management, and with this object they proposed to take evidence, discuss and negotiate with the existing companies, with other companies and with individuals, in order to arrive at a satisfactory conclusion as to the form which the new contracts ought to take.

An arrangement was signed on April 29 between the Government and the companies denouncing the existing railway conventions, and the companies will cease to administer the railways on June 30, 1905. Negotiations have been in progress ever since with a view of arriving at a satisfactory arrangement with the companies, but have broken

down chiefly over the point of the "insurance fund" (Cassa di Previdenza) and, in the case of the Adriatic Company, over the question of the purchase of the southern lines, which are the actual property of the company. The Government has consequently been unable to come to terms with any of the three companies.

In the memorial addressed to the Throne on October 18, 1904, the Government stated that it had come to the conclusion that, having regard to the actual conditions of the railway service, the concessions which it would be necessary to make to private management and the present economic state of the country, it was desirable that the railways should remain under State control. The position of public credit would enable the Government to clear up arrears and reorganize the service without a fresh issue of stock and without the risk of a deficit in the budget. The State would be in a better position than a private undertaking to find a solution for the vexed question of the status of railway employees, and by guaranteeing their rights and exercising a just but rigid disciplinary control to remove once for all any further occasion for strikes.

In his financial statement on December 8 last the minister of the treasury went at length into the financial aspect of the case, and bills have since been presented to the Chamber dealing with the whole question. Signor Luzzatti considers that two sums of about $100,000,000 each will be required to enable the State to acquire and run the railways, the first for buying out all the interest of the companies, the second for the expenses which must necessarily be incurred in working the railways and getting them into a proper state of efficiency during the next ten years.

ELECTROPLATED LACES.

(From United States Consul-General Guenther, Frankfort, Germany.)

German papers state that the production of metallized laces, etc., is another new industry being established in France. The old galvanoplastic art is employed. One of the first uses of the galvanic current was to coat certain articles with metallic substances, and gilding, silver and nickel plating, bronzing, etc., continue to be done in that way. It can not, however, be employed on articles that are nonconductors of electricity. Experiments were tried long ago to make such nonconductive articles susceptible to the galvanoplastic process, either dry or wet, by sprinkling them with a very fine powder of metal or graphite, or by immersing them in a solution of metallic salts. In this manner many articles, such as flowers, leaves, fruits, and branches, and even delicate articles, were metallized. Some years ago an Italian technician introduced metallized parts of corpses to serve for medical demonstration.

A chemist of Brussels devoted his attention especially to metallizing embroideries, and created wonderful effects. Until quite recently they could not be made of practical value, and only now a beginning has been made by an invention the details of which are kept a secret.

A stock company has been formed for its exploitation. According to the Paris Cosmos, the company has created a sensation with its products.

Laces mainly are treated. In a few minutes they are made conductors of the electric current and placed in a galvanic bath. Under the influence of a current of about 3 volts they become coated with an exceedingly delicate metal surface, the colors of which and other properties can be regulated at will. The coating is so fine that not the slightest irregularity can be noticed, and the laces remain perfectly soft and flexible. It makes no difference whether gold, silver, copper, bronze, or other metals are employed.

The assertion is made that the metallized points, in spite of the thinness of the metal coating, can be united as if soldered together, so that all sorts of combinations are possible. These metallic goods are used for table ornaments, decorating furniture coverings, wainscoting in parlors, and for incrustation of fine woods, and the metallized laces can even be polished. Fashion will try what effect such gold or silver laces will have when used as trimmings for dresses or shawls or in the hair. The chances for the industry are considered very favorable.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *March 11, 1905.*

GERMAN PATENT LAWS.

(From United States Consul Winter, Annaberg, Germany.)

The following points of interest regarding the German patent laws are taken from a recent number of the bulletin published by the Chamber of Commerce of Berlin.

For an American patent to be valid in Germany, the application must be filed simultaneously in the United States and in Germany. Such application must be made in writing on blanks furnished by the German patent office. Each application must be made out on a separate blank. The first part of the application shall form the petition and the second part the specification proper. Until the patent has been issued alterations are admissible.

The application for the patent must first be submitted to a preliminary examination. If not found to conflict with any application previously made, it is grantable. On publication in the official Government organ, the Reichsanzeiger, the patent acquires provisional validity. Such publication can, however, at the request of the patentee, be postponed for six months from the time of the decision reached by the preliminary examiners.

Should the application be rejected, the patentee is entitled to appeal within one month after being informed of the decision. This right is also possessed by opponents of the patent. The costs of appeal entail the payment of $5, failure to make which renders the appeal null and void. The amount thus paid may be refunded to a person whose appeal is sustained. If after publication an application be refused, the yearly fee already paid will be refunded to the applicant. Applicants living abroad are required to give security for expenses of legal proceedings in case of appeal. Such security is fixed by the proper authorities arbitrarily. The patentee, on being summoned to appeal, must file his reply within one month from the date of issue of the summons. Appeal may also be made from the decision of the patent office authorities to the Reichsgericht, in Leipzig, which appeal must be filed in writing at the patent office within six weeks after that office's decision.

For a patent to run fifteen years, the full or long term, a fee of $25 must be paid on filing application. A power of attorney and duplicate specifications in German, including drawings, are required; one set of drawings to be on bristol board and the other on tracing paper or cloth. The patent, if granted, must be used within three years from time of granting, when a fee of $28 is required. For assignment of a patent a fee of $10 is required.

Patent designs run for three years. They can, however, be renewed once after the first expiration. The fee for three years is $14. The person first applying for a patent design obtains it. In this respect persons living abroad should be particularly cautious. Power of attorney is also required, and drawings in duplicate, as for a full patent. The use of patent designs is not required.

JNO. F. WINTER, *Consul.*

ANNABERG, GERMANY, *March 16, 1905.*

LABOR CONDITIONS IN BADEN.

(From United States Consul Liefeld, Freiburg, Germany.)

The following facts pertaining to the factories and employees in the Grand Duchy of Baden are taken from the recently published annual report for 1904 of the grand ducal Baden board of inspection of factories. Baden has an area of 5,821 square miles and contains the cities of Mannheim, Heidelberg, Karlsruhe, Freiburg, Constance, etc.

The number of manufactories in Baden is 9,254, an increase of 915 over 1903. The board visited 3,374 factories in 1904, and in the preceding year 3,056. The number of employees is 203,813, against 193,590 in 1903. There were 102 written complaints by labor unions investigated, the most of which were well-founded. The relation

between employers and employees was in general good; there were, however, a few unpleasant exceptions. In two cases of great importance the board of inspection arranged conferences between the employers and representatives of the workmen with good results.

The report mentions the relatively great amounts paid in some cases for beer daily, especially where it was obtained on credit. At a stone quarry, for example, many workmen were receiving daily at the canteen from 8 to 12 bottles each (6 to 9 quarts). The party in charge of this canteen was arrested and fined, and the court ordered cash payments to be introduced. The workmen objected, as also when the number of bottles was to be limited to 3 daily, and patronized the near-by saloons. To please the greater number the limit was fixed at 5 bottles (3.75 quarts) per man per day, the price of which would correspond to about 20 to 25 per cent of the day's earnings.

The report devotes a special chapter to the employment of young people, children just leaving school, etc., and states that 3,269 factories, against 2,880 in 1903, employed young people, the number of such workers being 17,169, or 8.4 per cent, against 15,950, or 8.2 per cent in 1903. Female employees were found in 2,951 factories in 1904 and in 2,322 factories in the previous year. All told, there were 63,810 female employees, or 31.3 per cent of the entire number of employees, against 59,335, or 30.6 per cent, in 1903. The greatest number was found in the cigar industry, 23,847, or 37.4 per cent; in 1903 the number was 23,220, or 39.1 per cent. The next largest number was found in the textile industry, 17,243, or 27 per cent; in 1903 the number was 16,983, or 28.56 per cent. These two industries alone employ 64.4 per cent (in 1903 67.66 per cent) of all female workers in factories in Baden. The total number of hours of overwork in 1904 was found to be 332,041. Supervisory work was really never done by women, the few exceptions found being in factories where the male and female operators were employed in entirely distinct rooms or where the nature of the work was entirely different.

E. THEOPHILUS LIEFELD, *Consul.*

FREIBURG, GERMANY, *March 15, 1905.*

OPENING FOR AMERICAN CAPITAL AND INDUSTRY IN CANADA.

(From United States Consul Worman, Three Rivers, Quebec.)

A very important movement is on foot to connect this port by a net of electric railways with many of the adjoining towns, especially those situated back toward the Laurentian Hills. The undertaking is sure to hasten the development of a very wide country, rich in fertile

lands, almost exhaustless forests, valuable minerals, and especially rich in undeveloped water power which in its amplitude is second only to that of Niagara.

A legal organization had been effected with a capital of $30,000, but the parliament at Ottawa, in conferring the charter, ordered an initial capital of at least $60,000. There is no doubt that this sum represents but an elementary step in the amount that will be called for in the project. An opening is offered for American capital and industry in the building of the road and in supplying the running material. The waterways in this region, connecting so admirably with the United States, afford every opportunity to compete favorably with Canadian manufacturers, provided steps be taken in the initial period of an enterprise promising so much for inland and international commerce.

JAMES H. WORMAN, *Consul.*

THREE RIVERS, QUEBEC, *March 27, 1905.*

BELGIAN RAILWAYS.

(From United States Consul McNally, Liege, Belgium.)

The budget for 1905 includes a request for 262,000,000 francs ($50,566,000) for the administration of the Belgian State railways. The estimates are growing yearly, but the business is likewise increasing. In 1903 there were 9,003 office employees of all grades and 2,218 auxiliary employees on the rolls of these railways. The total number of workmen was 62,908, or 1,908 more than in 1902. The pensions for railway employees amounted to 1,171,789 francs ($225,154) a year.

Various statistics are given to show the periodical development. In the period from 1835 to 1844 the railways of Belgium were completed to a certain extent, after which for twenty-five years no material improvements were made. In this time, however, many concessions were granted to private corporations to build railways in various parts of the Kingdom. In the seven years from 1871 to 1877 the Government railways were increased by purchase and the construction of new lines from 538 miles to 1,509 miles. From 1878 to 1883 there were extensions, but between 1883 and 1896 very little, if anything, was done by way of improvement. In 1895 the "Société Nationale de Chemins de Fer Vicinaux" was formed to construct new lines of railway. So well did they carry out their plans that in a few years the railways built under their supervision and controlled by them equaled those of the State. Since 1897, however, very few improvements have been made in this connection.

The following figures will indicate the increased cost of building a kilometer (0.62137 mile) of railway since 1836. From 1836 to 1876 the cost was less than $58,000; from 1876 to 1890 it advanced to $77,200, and at present the cost is $96,500. From 1838 to 1853 the transportation of merchandise largely increased, but the passenger traffic remained about the same throughout that period. After sixteen years the annual freight amounted to 1,000,841 tons, while the number of passengers carried was 6,000,000; sixteen years later, or in 1870, the annual freight amounted to 7,000,000 tons and the number of passengers carried increased to 14,000,000. In 1886 the freight traffic had increased to 23,000,000 tons and the passengers carried numbered 45,000,000. The last published statement, which was for the year 1903, shows the freight traffic of that year to have been 45,000,000 tons, and the number of passengers carried was 135,000,000.

JAMES C. MCNALLY, *Consul.*

LIEGE, BELGIUM, *March 22, 1905.*

IRON, STEEL, AND COAL PRODUCTION OF FRANCE IN 1903 AND 1904.

(*From United States Consul-General Skinner, Marseille, France.*)

The Government has compiled and made public the following statistics in regard to the production of iron, steel, and coal in France:

Production of pig iron in France, 1903 and 1904.

Kind.	1903.	1904.
	Tons.	*Tons.*
Coked iron	2,822,305	2,979,644
Charcoal iron	8,051	9,194
Mixed iron	10,161	10,949
Total	2,840,517	2,999,787
Increase in 1904	.....	159,270

Production of wrought iron in France, 1903 and 1904.

Kind.	1904.		Total, 1903.	Total, 1904.
	Merchant iron and special.	Sheet iron.		
	Tons.	*Tons.*	*Tons.*	*Tons.*
Puddled iron	334,141	23,054	364,637	357,195
Charcoal refined	7,742	1,360	5,668	9,102
Reworked scrap iron	178,817	9,518	219,605	188,335
Total	520,700	33,932	589,910	549,632
Decrease in 1904	27,118	8,160	.....	35,278

Production of steel in France, 1903 and 1904.

Kind.	1903.		1904.				
	Total worked steel.	Steel billets.	Worked steel.				Steel billets.
			Rails.	Merchant steel.	Plates.	Total.	
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*
Converter	767,727	1,161,964	225,615	575,115	86,887	887,617	1,334,798
Martin furnace	514,924	677,674	20,724	338,054	209,528	568,306	745,556
Puddled and forged steel	4,842	.....	.....	2,745	721	3,466	.....
Cemented steel	1,272	.....	.....	685	.....	685	.....
Crucible steel	13,017	.....	.....	12,047	150	12,197	.....
Obtained by reheating old steel	3,927	.....	.....	8,347	2,090	10,437	.....
Total	1,305,709	1,839,628	246,339	936,993	299,376	1,482,708	2,080,354
Increase in 1904	.....	.....	17,268	152,899	6,832	176,999	240,726

Production of coal in France, 1903 and 1904.

Kind.	1903.	1904.
	Tons.	*Tons.*
Soft and hard coal	34,217,661	33,838,130
Lignite	688,757	664,159
Total	34,906,418	34,502,289

ROBERT P. SKINNER, *Consul-General.*

MARSEILLE, FRANCE, *March 21, 1905.*

NEW RAILWAY SIGNAL DEVICE.

(*From United States Consul Worman, Three Rivers, Canada.*)

A Canadian invention for signaling with electric lights was put to a practical test this week at Montreal, in the presence of experts from the leading railway companies.

The apparatus was fitted up to represent five stations of a railway line, each station having a switchboard with two lamps, a bell, and four switches. The two outer switches are for turning on the lights when a signal is to be given along the line, either to the left or right of the signaling station, or in both directions. One of the inner switches is for turning on the current when the officials of the station are leaving for the night, so that there can be no interruption of signals between the other stations.

In case the night switch is not put on, the next calling station is advised by telegraph of the departure or arrival of a train in the usual way, and accidents can be thus prevented. As the signal lights can not be turned on beyond the negligent night station, which is intermediate, the calling station will be able to turn on the signals from this point "backward" to the night station, and thus insure the continuity of signals from one station to the other.

The signal lights are supposed to be placed on every other telegraph post on the line, each being fitted with a plug, so that if, after leaving a station, there is a breakdown, the engineer need only insert the plug in the slot and he advises both stations of the mishap, and then, by the use of a code, he tells what the mishap is and what he requires.

If there is any train on the line which is not "on time," all other trains, by a regular succession of signals, can be warned of it. Power can be obtained from any point for use on the system, and short-circuiting is prevented by the use of three wires. The cost of installation is computed to be about $300 per mile.

JAMES H. WORMAN, *Consul.*

THREE RIVERS, QUEBEC, *March 28, 1905.*

DANGER IN XYLONITE AND CELLULOID MANUFACTURE.

(From Vice and Deputy Consul Phillips, Cardiff, Wales.)

The alleged injury to health and risks from fire in the manufacture of xylonite and celluloid and in their use for manufacturing purposes has led to an exhaustive inquiry by the chief inspector of factories, who has conferred with experts on the matter.

It appears that by the general observance of recognized measures and precautions already adopted in certain works further security may be obtained. In making the raw material, and in its subsequent manipulation, there seems to be little risk to health except in rooms where nitric or sulphuric acids are used. It is recommended that the fumes from these acids should be drawn away mechanically by suitable exhaust ventilation pipes.

The risks of fire are obvious, having regard to the highly inflammable nature of the substances used, and further precautions are recommended to lessen the danger where xylonite or celluloid are stored or used for manufacturing purposes. It is suggested that fireproof rooms should be provided for storing large quantities, that smaller quantities should be kept in metal or other fireproof receptacles, and that dust and shavings should not be allowed to accumulate on the floors, but should be swept up daily and placed in receptacles of noninflammable materials and not in sacks or wooden boxes, now commonly used for the purpose. As far as possible the use of naked lights should be avoided; if used at all they should be at least 3 feet from any boring or glazing machine. When the material is cut or sawed, the saw or other cutting instrument should be kept cool by running it in water or by other means. To avoid friction in boring, the shanks of tools used for boring the scales for table knives and forks should be of special

construction. Buckets filled with damp sand should be kept in constant readiness, in addition to water, in every shop where xylonite or celluloid is being worked, in order that any accidental fire may be immediately smothered before it attains serious proportions.

ERNEST L. PHILLIPS, *Vice and Deputy Consul.*

CARDIFF, WALES, *March 20, 1905.*

RUSSIAN-TURKESTAN TRADE.

(From United States Commercial Agent Harris, Eibenstock, Germany.)

The caravan route leading from Orenburg through the heart of Turkestan to Tashkend has long played an important part in the development of Russian commerce with central Asia. It was the only way by which the merchandise of Turkestan found its way into Russia until the completion, about fifteen years ago, of the Trans-Caspian Railroad, which opened up a more rapid means of communication. The old caravan route, however, retained much of its commerce for the reason that the means of transport was still cheaper than by rail. A full-grown camel carries about 880 pounds, and it costs from $7 to $10 to transport that amount from Tashkend to Orenburg, a distance of 1,242 miles. The merchandise carried is usually silk from Samarkand and China, together with magnificent carpets and lambskins from Bokhara. These articles are exchanged in the markets of Orenburg for grain, sugar, and miscellaneous merchandise.

The completion of the Orenburg-Tashkend Railway brings the markets of Turkestan fifteen days nearer to Russia in Europe. Growers of cotton, wine, and fruit, in Turkestan are hoping for the best results. The shipment of cotton to Russia will be greatly facilitated, for the reason that the bales will no longer be subject to water transportation across the Caspian Sea in the freight steamers which connect the terminal railway lines of Krasnovodsk and Baku.

ERNEST L. HARRIS, *Commercial Agent.*

EIBENSTOCK, GERMANY, *March 20, 1905.*

PROCESS FOR CLEANING MACHINE OIL.

(From United States Commercial Agent Harris, Eibenstock, Germany.)

In large manufacturing establishments the machine oil used in running engines, dynamos, motors, and machinery of every description forms a very considerable part of the annual expense account. In order to reduce this item to a minimum, a Berlin firm has placed an

apparatus (fig. 1) on the market which promises to find a ready introduction.

Figure 2 shows its internal workings. The clotted oil which has already been used is introduced into a settling chamber at the top,

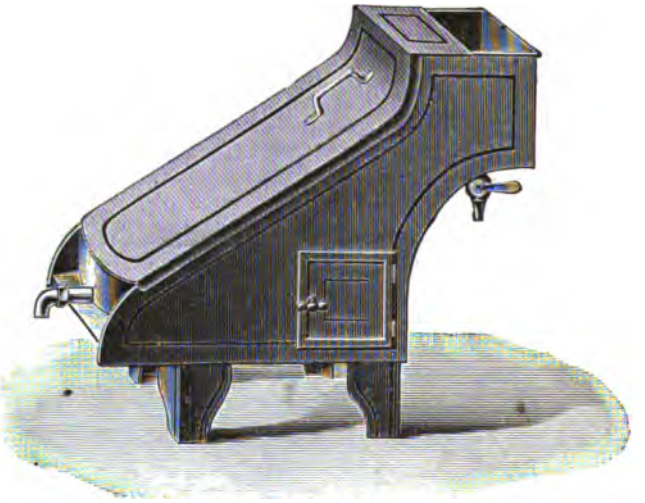

FIG. 1.—Apparatus for cleaning machine oil.

from which the liquid passes, as the arrows indicate, through two other settling chambers, at the bottom of each of which is a faucet for the removal of the sediments, and thence through a series of filtering

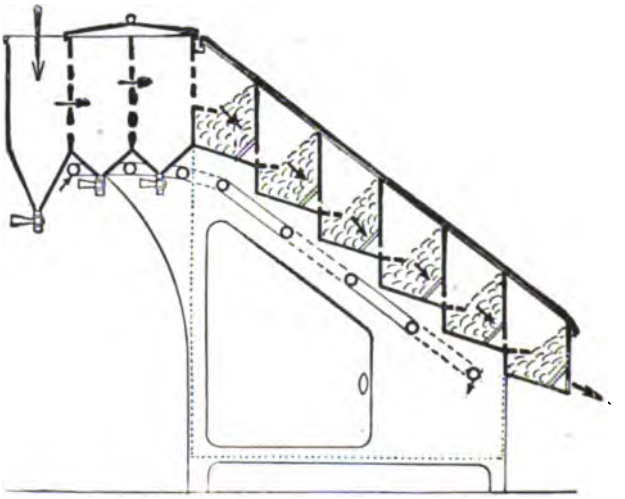

FIG. 2.—Section showing operation of apparatus for cleaning machine oil.

chambers situated on an inclined plane, from the last of which it may be removed in a condition for use.

ERNEST L. HARRIS, *Commercial Agent*,
EIBENSTOCK, GERMANY, *April 4, 1905*.

BUSINESS OPPORTUNITIES IN FOREIGN COUNTRIES.[a]

(From United States Consul-General Guenther, Frankfort, Germany.)

Algeria.—A market hall is to be erected in Ain-Temonchent, on which there will be expended $100,000 on the iron work.

Australia.—The German consul-general at Sydney reports that the government of New South Wales will invite foreign manufacturers to establish iron furnaces, rolling mills, and steel and machinery works there. The promoters are to use 90 per cent of Australian iron ore. The government and the administration of railroads of New South Wales, as also the harbor board of Sydney, will order all their needed iron and steel articles, machinery, etc., from the new establishment. The contract is to last for a term of seven years.

Austria.—An electric tramway is to be constructed at Goerz.

The town of Proesnitz, Maehren, is to get new waterworks.

Belgium.—The sum of $131,000 will be expended for the construction of an iron storage shed along the American basin in the port of Antwerp.

British South Africa.—The town council of Beaconsfield, Cape Colony, projects the erection of an electric plant to furnish light and power.

The government of Natal Colony contemplates the construction of a railroad from Umlaas Road Station to Mid Illoso.

The harbor board commission at Cape Town will spend $930,000 for new electric cranes and other harbor improvements.

Materials for the construction of an electric tramway and lighting plant for the city of Johannesburg are to be supplied. The stipulations can be obtained from the consulting engineers, Mordey and Dawbarn, 82 Victoria street, London.

Bulgaria.—The administration of the State railways of Bulgaria, at Sofia, will receive bids for furnishing cast-iron pipes.

France.—Another company has been organized at Lyon for the manufacture of artificial silk, with a working capital of $480,000. The profits in this product are great, and many new factories are springing up in various European countries. The United States is one of the chief consumers of the article, but no artificial silk factory has as yet been started there to my knowledge.

Germany.—The Hamburg-American Steamship Line invites bids for building six steamboats to be run on the river Nile.

The electric plants in Leipzig, Heidelberg, and Emden are to be enlarged.

A tramway will be built in the town of Celle, Prussia.

Electric tramways are to be built from Friedeberg to Bad Flinsberg in the Isergebirge, and from Saxony to Bad Teplitz in Bohemia.

[a] Information gleaned from German sources.

The municipality of Bad-Reinerz, Silesia, projects the installation of electric lighting.

The town of Alfeld and twenty-six suburban places are to receive light and power from an electric central station to be erected at Wallensch; estimated cost, $107,000.

Italy.—The estimated cost of works whereby the water power of the Sentino is to be used to supply electric energy is $400,000. A money prize will be awarded for the best plan for the works, which are projected by the provincial council of Ancona.

Panama.—The British consul at Panama reports that the secretary of public works of the Republic of Panama will receive proposals for building a light-house on the island of Bastimentos; also for the construction of Government buildings at Bocas del Toro.

Netherlands.—The municipality of Utrecht is to purchase twenty electric motor cars.

Russia.—The Russian Government has ordered 2,400 freight cars, each of 36 tons capacity, to be built by the Putilow Works, St. Petersburg; the Moscow Car Works, and the Phœnix, the Russian Baltic, the Kolomensti, and the Bjefchezki railroad car factories. The iron parts of these cars are to be purchased abroad, as they represent a new type and can not be furnished in time by Russian iron works.

Spain.—The Fabrica Nacional de Moneda y Timbre at Madrid invites bids for supplying it with 12,768 reams of white gummed paper.

The Société Generale des Tramways de Madrid has been granted the concession for building an electric street car line in Madrid.

The Junta del Puerto de Barcelona at Barcelona will award a contract for furnishing four bridge cranes.

The Spanish ministry of marine will receive proposals for electric light installation on the cruiser *Cataluna.*

Switzerland.—K. Loehle, of Zurich, heads a Swiss company which projects the building of an elevator to the top of the "Swendifluh" mountain.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *April 6, 1905.*

COLD STORAGE IN LONDON HOSPITALS.

(From United States Consul Halstead, Birmingham, England.)

"The Hospital" says its representative found five of the twelve hospitals he visited in London had cold-storage plants. The Middlesex Hospital has a plant producing 3 tons of ice in twenty-four hours, at a cost of $2 a ton, against $5.46 a ton when purchased. The evaporating coils of the apparatus after making ice are immersed in a brine tank a little way from the plant, and the brine thus cooled is used to

reduce the temperature of four chambers to a point a little above freezing. Two of these chambers are used for preserving food, one for preserving specimens for the pathological school, and the fourth serves as a mortuary for twelve bodies. Distilled water which can be used with assurance of its purity is employed.

At St. Thomas Hospital, in addition to making ice and cooling a mortuary chamber and chambers for food, etc., the cold-storage plant provides steam and cold brine for a milk sterilizer. The sterilizer consists of a vessel provided with a jacket through which steam or cold brine can be passed. The milk in the central receptacle is first raised to a temperature of 150° F. by passing steam through the jacket, and is kept thus for twenty minutes, the sterilizer being gently rotated and the milk kept in motion. The supply of steam having been shut off, cold water is run through the jacket for about twenty or twenty-five minutes, until the milk is cooled to 85° or 90° F., and then cold brine is run through the jacket for twenty minutes, until the temperature of the milk is reduced to 40° F. This process enables the hospital to keep milk "quite sweet" for forty-eight hours.

Aside from the sanitary reasons for averting the processes of decay, "The Hospital" states a sentimental reason for having cold-storage chambers:

> It is the feeling for others in the breasts of those who give and that some day they may want the hospitality of one of these institutions that enables hospitals to exist. Everything that can encourage the feeling adds to the probable amount of the donations of the pious and charitable. There is a sad side to hospital work. While the healing work is going on there is a constant passage of inmates "across the border." In many cases those who die come from a distance. In all our large towns, but especially in London, there is a very large population that has come to them in the continual exodus from the country that is so marked of recent years. In many cases the first intelligence of the loss of some member of a family who has been from home for some time is a notice that he has died in some hospital. In all our great cities, also, and especially in that huge aggregation of towns, greater London, accidents are only too frequent, and too often result in death. It is an inestimable boon to the relatives called from a distance to be able to see those who have gone to their long home as they were immediately after death.

The facility for placing bodies in cold storage is also an aid to post-mortems.

The writer states that the hospital authorities consider cold storage of very great service in preparing food for the patients. Greater economy is possible, because nothing need be wasted, and advantage may be taken of favorable market conditions. Surgeons and apothecaries also have at their command a wide range of temperature, very important in perfecting their work.

MARSHAL HALSTEAD, *Consul.*

BIRMINGHAM, ENGLAND, *March 23, 1905.*

SHEFFIELD'S GAS SUPPLY.

(From United States Consul Daniels, Sheffield, England.)

The report for 1904 of the Sheffield United Gaslight Company, presented and accepted March 13, 1905, shows that after the usual dividend had been paid, which amounted to $211,323, there was a surplus profit of $48,100, which, added to previous unappropriated balances, makes a total of $297,100 in hand. The reserve fund is full, and amounts to $422,646. This result was obtained after having reduced the price of gas 4 cents per 1,000 cubic feet on January 1, 1904.

It was decided to further reduce the price of gas to 36 cents, 32 cents, and 28 cents per 1,000 cubic feet after the meter readings at the end of this month. The price will then be the lowest charged for gas in England. Attention is called to the fact that in October, 1901, the price was reduced from 52 cents to 48 cents; in March, 1903, from 48 cents to 44 cents; in January, 1904, from 44 cents to 40 cents; in March, 1905, from 40 cents to 36 cents, making a total reduction of 16 cents per 1,000 cubic feet, or 30.77 per cent, in four years. The number of tests made of the gas during the half year was 1,188, and the average illuminating power was 17.38 candles, the corporation testing independently of the company. The Parliamentary standard is 16½ candles.

Coal cost $22,318 less, but the company received $53,278 less for gas, owing to the reduction in price. The company also received $11,495 less for coke, $13,081 less for sulphate of ammonia, and the profit of the fitting department was $2,842 less. The quantity of gas sold during the six months ended December 31, 1904, was 1,409,125,000 cubic feet, and for the corresponding period of 1903, 1,401,515,000 cubic feet, being an increase of about 7,610,000 feet.

The leakage was 4.10 per cent, against 3.78 per cent in the corresponding period of 1903. The number of additional meters put in during the last twelve months was 2,866. The total number of meters in use on December 31, 1904, was 77,681. During the last twelve months 1,299 gas fires and 1,248 boiling and other stoves were sold; 411 additional cookers were let for hire, and 43 additional gas engines were installed.

The consumption of gas in 1884 was 1,258,000,000 cubic feet; in 1894, 1,819,000,000; and in 1904, 2,745,000,000, showing that the annual sale of gas in twenty years has increased by 118 per cent. During the ten years ended December, 1894, the company installed 9,984 meters, and 26,738 meters for a like period ended December, 1904. In 1902, 1903, and 1904 the number of meters installed were 3,442, 3,423, and 2,866, respectively.

With gas at 28 cents per 1,000 cubic feet, which will be the price

charged gas engines after March 31, and allowing 22 cubic feet per hour, which is the maximum required per horsepower, 3¼ horsepower per hour can be obtained for 2 cents. A new gas holder, with a capacity of 7,706,770 cubic feet, is nearly completed and is expected to be ready for use by August of this year.

CHAS. N. DANIELS, *Consul.*

SHEFFIELD, ENGLAND, *March 14, 1905.*

HOUSEKEEPING SCHOOLS FOR FARMERS' DAUGHTERS.

(From United States Consul Brittain, Kehl, Germany.)

The question of establishing traveling schools for farmers' daughters which shall teach the principles of scientific housekeeping, cooking, and farm work is being agitated in Alsace-Lorraine. Such schools are already in operation in Baden, Bavaria, Thuringen, and Hesse, and are giving great satisfaction.

The teachers are all educated women, graduates of the best schools of housework, who must have passed Government examinations. All expenses incident to conducting the schools are paid by the Government, but these are comparatively light. An outfit for a school consists of a cooking stove, serving utensils, ironing boards, irons, tablecloths, towels, and cooking utensils. Tables and chairs are borrowed in the various villages, and the classes are held in the schoolhouses. Only twenty girls are allowed in a class, a term lasts six weeks, and no pupils are admitted who are under 16 years of age.

There are practical lessons in housekeeping, cooking, and the selection of food; then lectures on the analysis of food, the scientific care of cattle and poultry, the cultivation of vegetables, and the making of butter and cheese. It is proposed to enlarge the curriculum to include a minor course in nursing, cooking for the sick, sewing, mending, etc.

The tuition will be so low as to exclude practically no one. The schools are especially intended to benefit remote farming communities not easily accessible to permanent schools of such nature.

JOSEPH I. BRITTAIN, *Consul.*

KEHL, GERMANY, *March 13, 1905.*

COMMERCIAL TRAVELERS IN CUBA.

(From United States Minister Squiers, Habana, Cuba.)

By a decision of the department of finance, when a foreign commercial traveler's samples are exported from a port other than the one through which they were imported, the custom-house of the first port will issue a voucher in exchange for the certificate of deposit, which

voucher, together with a certified copy of the verbal declaration on which the import duties were based, must be presented to the custom-house of the port of clearance in order to secure the reimbursement of 75 per cent of the duties paid.

The following is a translation of a circular (No. 345) issued for the Habana customs upon the subject:

DEPARTMENT OF FINANCE,
CUSTOMS DIVISION,
Habana, March 30, 1905.

The delays caused by the procedure up to now to make reimbursements, which, in accordance with the note to paragraphs 326 and 327 of the tariff, are made to commercial travelers when, within three months, they reexport the samples which they bring in their baggage and whose value does not exceed $500, forces this department to adopt means to prevent the frequent difficulties which are caused to custom-house functionaries by the delay in the return of 75 per cent of these collections.

Therefore it is provided:

1. That in future the full amount of the duties assessed in the custom-houses on samples imported by commercial travelers shall be collected in the form set forth in the note to paragraph 327 of the tariff in force.

2. When samples are exported from the custom-house of the port of entry within a period of three months, to which the note to paragraph 327 refers, the custom-house will proceed to deduct from the amount deposited 25 per cent of the lawful duties for final collection, as it belongs to the State, and the 75 per cent remaining shall be returned to the commercial traveler.

3. In cases in which the period of three months mentioned shall have passed without the exportation of the sample being effected, the respective custom-houses shall proceed to the final collection of the whole of the duties placed on deposit, because the period set forth by the law for obtaining the reimbursement of the 75 per cent of said duties shall have elapsed.

4. When exportation of samples takes place in a port other than that in which importation was effected the latter port will proceed to the collection of the whole of the duties deposited; the receipt of the deposit will be taken up and a voucher furnished in its place, so that the custom-house through which exportation takes place may return the 75 per cent on presentation of that document and a certified copy of the verbal declaration on which was based the assessment at entrance as a due proof and guaranty for the State. These reimbursements will be made in accordance with a special fund which on this date and with said object exclusively will be assigned to the order of the respective cashiers of the custom-houses.

Collectors of customs are by this circular authorized to proceed to the reimbursement of import duties collected on samples of commercial travelers as mentioned above without the necessity of other authorization from this department.

HERBERT G. SQUIERS, *Minister.*

HABANA, CUBA, *April 8, 1905.*

TIMBER RESOURCES OF LIBERIA.

(*From United States Consul-General Lyon, Monrovia, Liberia.*)

LIBERIAN TIMBER.

Liberia's forestry resources offer an inviting field for a lucrative business in hard woods. The virgin forests consist of woods of great commercial value, and there are ample water facilities for sawmills. There are two varieties of mahogany—red and gray; four varieties of oak—red, streaked, white, and whistmore; cedar, rosewood, mangrove, burrwood, white and black gum, mulberry, brimstone wood, red peach, pepper wood, white mangrove, persimmon, iron wood, greasy peach, poplar, cherry, hickory, saffron, ebony, and many other woods common to the Tropics. Some of these possess singular qualities. The greasy peach lasts indefinitely, and is proof against insect attacks. The heart of the mulberry is incased in a very thick sap, which succumbs readily to decay, but the heart itself, which is capable of the highest polish, is tough, and its durability is indefinite. The qualities of ebony and mahogany are well known. The African cedar is similar to the American pine, very light in color, takes a beautiful polish, and is used for ceilings. The brimstone wood and the hickory, when seasoned, are so stubborn in their qualities as to defy penetration.

SAWMILLS WANTED.

All that is lacking to develop what must be in the nature of events a permanent and profitable industry is sufficient capital to install a first-class sawmill, and to guarantee its working expenses until the enterprise develops sufficiently to support itself and to pay its promoters. Some experiments in this direction have been made from time to time by Liberians of small capital, but they have failed, not from lack of patronage, but from insufficient capital to meet the contingencies until the experiment could be put upon a paying basis. There are no efficient sawmills operating now. A few months ago a secondhand mill was in operation at Junk River, and the local demand for sawed lumber was far beyond its capacity, but with the mysterious disappearance of the operator its activity has been impaired. Another enterprise is about to start under the auspices of the Thompson Mission, a religious organization, at Mount Coffee, on the left bank of the St. Paul River, about 35 miles in the interior. A secondhand sawmill has been secured in the United States to further an idea of the superintendent of the mission, who purposes to build a Christian colony among his native converts.

FOREIGN AND LIBERIAN LUMBER.

There is an ever-increasing local demand for planks for construction purposes, but the present crude system of manufacturing them, in the

absence of sawmills, is not only tedious to contractors, but highly expensive to builders. This expense and delay force the builder to import lumber which is by no means adapted to climatic conditions or to resist the attacks of destructive insects, which are known to devour an ordinary house, constructed of foreign pine, in less than a year. Most of the lumber comes from the United States via England, Germany, or the Canary Islands, there being no direct communication, which increases the price. The Liberian secretary of the treasury, who is now erecting a residence, gave this difficulty as his reason for using lumber imported from the United States instead of native lumber, which is better in quality and durability. The following are the prices of foreign and native lumber per foot: Foreign—pitch pine, spruce, and white pine, and ¾-inch weatherboards, 6 cents; native—inch boards, 4 cents; ¾-inch boards, 3 cents; black gum, 5 cents. The native lumber is always rough, and by the time it is worked up to the grade of imported lumber, planed, with tongue, groove, etc., the price is considerably beyond that of the imported article.

NATIVE METHODS OF MANUFACTURE.

In the absence of sawmills the method is to saw the logs into building planks on what is called a "saw pit." This pit is made of forks and arm poles about 8 feet high and 10 feet long. The log is hewed, squared, lined, and placed securely on the top of the pit. It is then sawed by a whipsaw handled by two men, one on the top of the log and the other on the ground under the log. Every inch of the work must be done by muscular force and principally by the aborigines whose idea of uniformity is imperfect. The planks thus manufactured are never of regular dimensions, so that the mechanic is always placed at a disadvantage in the production of high-class workmanship. It takes fully two months, sometimes longer, to turn out a thousand feet of lumber. This speed very often depends upon the temper of the workmen and great delay is experienced in the completion of buildings. Builders who are compelled to employ this native system take from two to four years to erect an ordinary two-story house. The scarcity of native skilled labor, and the consequent cost of preparing lumber, have a deterrent influence upon the average citizen with little means, and confines the building and improvement of houses to the few. The average man is compelled, from sheer necessity, to content himself with a building which falls below his desire. A Liberian planter of wide experience told me that he had been trying for more than eight months to get a sufficient quantity of lumber to erect his house, and notwithstanding additional expenses, by way of "dashes," to keep the aborigines at work before the rainy season sets in, he had only succeeded in getting 3,000 feet.

CORRUGATED IRON FOR BUILDING PURPOSES.

Corrugated iron is being imported into the Republic to meet this exigency. The preference for it is due to the fact that it stands the attacks of tropical insects better than imported lumber. It is used for "weatherboarding" as well as for covering. It is not, however, as well adapted to the climate as the native wood. It rusts quickly, and presents in this condition a somewhat ugly appearance unless kept constantly painted. In every instance the native wood is preferred.

OUTLOOK FOR THE INSTALLATION OF SAWMILLS.

Location.—Four sawmills could be installed advantageously—one operating at Cape Palmas, in Maryland County, near the Cavally, or some other river; one in Sinoe County, in the vicinity of the Sinoe River; another in Montserrado County, in the neighborhood of the St. Paul, Junk, or Messurrado river; and the other at Cape Mount, along the shores of the lake or the banks of the Mannoah River. The large number of rapids in these rivers could be used as hydraulic accumulators for operating engines. A prospector well versed in this kind of industry says "it is perfectly safe and well within the mark to estimate that the daily output of the four mills would be 32 squared logs, 480 planks, and 256 blocks or spars." I am satisfied that his estimate is considerably below the capacity of any four mills of even ordinary grade.

Earnings.—Let us, on a conservative basis, estimate that the four mills would daily turn out 50 squared logs, 600 planks, and 325 blocks or spars. If the mills run twenty-two days in each calendar month the monthly output would be 1,100 squared logs, 13,200 planks, and 7,200 blocks or spars, an annual output of 13,200 squared logs, 158,400 planks, and 86,400 blocks or spars. The price of a squared log in Liverpool is said to be $34.56. Estimating this output at the prices now ruling in Liverpool gives the following as the annual earnings of the four mills: Square logs, $456,192; planks, $95,040; blocks or spars, $93,312; total, $644,544.

Cost of installation.—The ex-American consul at Loanda, Mr. Downing, now in Liberia for the purpose of securing a concession to develop the timber industry in the interest of American capitalists, in a scheme submitted to a company of Liberians last month, estimated the cost of installing four mills and the working expenses for the same as follows:

EXPENSES OF INSTALLATION.

Materials for constructing sawmills	$23,640
Engines, turbine, etc	19,200
Trucks	5,760
Steam launches	5,760

Extra materials	$3,840
Stores, freight, carriage of material	7,200
Cash and merchandise	28,200
Total	93,600

ANNUAL WORKING EXPENSES.

4 chief engineers	$4,800
32 native foremen	3,072
32 native laboring gangs	30,720
8 assistant engineers	3,800
Traveling expenses, subsistence, etc	2,880
Management, offices, warehouses, etc	48,040
Total	93,312

Mr. Downing estimates the gross annual income at $326,427, and in his summary makes the expenses $147,552, which does not include the amount for installing mills. The available balance therefore would be $178,925. If the capacity of the four mills is as estimated, and accepting the estimate for annual working expenses, $147,552, as reasonably correct, the balance available from annual output and earnings would be $496,992. This estimate is conservative and is made for Liberia, where the enterprise would necessarily be of an initiative character.

ERNEST LYON, *Consul-General.*

MONROVIA, LIBERIA, *March 8, 1905.*

MONTREAL AS A FREE PORT.

(*From United States Consul Worman, Three Rivers, Quebec.*)

Commercial circles of Montreal, including the board of trade, are petitioning the Ottawa government to make the port of Montreal free and national. The fact that the Dominion government has taken off all canal duties is considered a distinct step toward the furthering of the project.

Hon. Raymond Prefontaine, the present minister of marine and fisheries, was, even as mayor of Montreal and harbor commissioner, strongly in favor of constituting Montreal a free port under government supervision. Hon. J. I. Tarte, the former minister of marine and fisheries, has also strongly advocated it upon every possible occasion.

The announcement is made by the harbor commissioners of Montreal that in addition to present revenues $150,000 per annum will be required to provide interest on outstanding bonds and to meet the current working expenses of the port if the Dominion government does not assume control of the harbor. As at present organized, the commissioners can only raise this annual tribute by taxing the shipping of the port or levying additional taxes upon the merchandise brought by ships to the Canadian merchants.

Quebec and Three Rivers are important Canadian ports and will undoubtedly grow in importance in the near future, but "Montreal as a free port," says the Montreal Star, March 8, 1905, "would benefit all Canada, and as a port is the outlet and inlet of the west as well as of the east." Above Montreal the Dominion maintains a great series of inland waterways at a cost of millions annually.

The Montreal Gazette says:

The Dominion government owns and controls every foot of available water front between Victoria Bridge and Longue Pointe. The government is the chief creditor of the port, inasmuch as the commissioners have borrowed a good many millions of dollars from Ottawa, upon which interest is being paid at the rate of 3 per cent per annum. The freeing of the port of Montreal would be greatly in the interest of the entire Dominion. Competition in the ocean-going traffic of the world is each year becoming more keen, and the very small fraction of a cent per bushel on grain or a few cents per ton on merchandise means the turning of the trade from one port to another. Steamships are, to a large extent, free agents. They have neither rails, rolling stock, nor franchises to tie them down. A word from the owners, an order to the captains, and a fleet transfers its allegiance from one port to another. As it now stands, steamships in the St. Lawrence trade are under a disadvantage, in comparison with the Atlantic ports, as regards insurance, and to a less extent pilotage bills are also more burdensome than at some of the Atlantic ports.

Montreal must have the through trade as well as the local. Not only must it have the business of the Canadian Northwest, but of the American West as well. Properly fostered, Montreal has a distinct advantage over any port on the continent. One has but to study the map to realize this. America's commerce, finding its way across the Atlantic, follows the lines of least resistance, just as the Ottawa flows into the St. Lawrence and the St. Lawrence into the sea.

To-day the chief competitor of Canadian ports is Boston, which, within a few years, has grown from nominally nothing to one of the most important shipping points on the Atlantic coast. That port began its real growth when the Boston and Maine Railway took up its work in earnest. That corporation took over the terminals. Sheds, docks, and elevators were constructed. Steamships were urged to go there free of all charges, and, presto, the port of Boston became a factor in the world's commerce.

JAMES H. WORMAN, *Consul.*

THREE RIVERS, QUEBEC, *March 28, 1905.*

IRON CURTAINS FOR THEATERS.

(From United States Consul-General Guenther, Frankfort, Germany.)

German papers, discussing the subject of safety appliances in theaters, state that the numerous theater fires of late years have shown the necessity for separating the stage from the auditorium, so that neither fire nor smoke can communicate from one to the other. The presence

of sufficient ventilation to get rid of smoke and poisonous gases is also imperative.

Recognizing these needs, iron curtains have been installed in almost all large theaters. Criticising their use, an expert writes to The Health-Engineer questioning the dependence to be placed in working them, as so far no perfect contrivance has been invented. Hydraulic, electric, and manual power have been employed, but experience at almost every theater shows that from unknown causes the curtain on many occasions fails to move. After the Iroquois Theater fire in Chicago the police authorities here ordered the iron curtains to be lowered once or twice during intermissions in performances, expecting greater assurance of their working properly in case of danger. The order may be reassuring, but the experience is fresh in the public mind where the iron curtain at the Berlin Opera House was lowered and could not be raised again, so that the performance had to be abandoned. It is also questioned whether the rattling noise created by the lowering of the curtain does not tend to alarm the audience.

It has been proposed to make obligatory the possession of two iron curtains to make more nearly certain that one at least will work in a crisis. Should both be used, all the better. The expense for these curtains would probably be less than for the increase in the number of theater firemen lately demanded by the police. Where the construction of the theater makes it impossible to install a second iron curtain, an asbestos curtain with an iron filling should be added. This idea has been advanced by Fire Director Reichel, of Hanover, and it is hoped will be acted upon in the construction of new theaters.

The expert proposes that there be a space of 39 to 58 inches between the two curtains, and supplied with strong ventilators at the top, so that smoke and poisonous gases can not penetrate to the auditorium. This space would also be of great service to the firemen in fighting flames.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *March 18, 1905.*

GERMAN BICYCLE TRADE AND THE NEW TARIFFS.

(From United States Consul Liefeld, Freiburg, Germany.)

The following information is from the Deutsche Radfahrer-Zeitung, a reliable German weekly paper published in the interest of bicyclists:

The exports of bicycles and parts of bicycles from Germany during the years 1902, 1903, and 1904 were valued at $3,427,200, $4,416,600, and $4,795,700, respectively. To these figures should be added exports of motorcycles in the same years, worth $22,800, $139,200, and $290,600.

Special bicycle tariffs have been successfully arranged with Belgium, Russia, Switzerland, and Austria-Hungary.

The tariff of Belgium on bicycles was 12 per cent ad valorem, and this rate has now been fixed by the new German-Belgian commercial treaty to remain in force for twelve years. The Russian import duty on bicycles was $13.95 per wheel, but this has been raised in the new Russian tariff to $15.45 per wheel, and this increase has been accepted and recognized in the new German-Russian commercial treaty. The Swiss import duty on bicycles and parts of wheels was $19.30 per 220.46 pounds, but this rate has been reduced to $13.51 in the recent commercial treaties between Switzerland and Germany and Austria-Hungary. On October 10, 1902, Switzerland established a rate of $3.86 per bicycle containing one or more seats, $6.75 for three or four wheeled cycles, and raised the duty on completed parts of wheels to $23.16 per 220.46 pounds. In the new German-Swiss commercial treaty these rates have been reduced to $2.32 for a bicycle containing one or two seats, $4.82 for a three or four wheeled cycle, and $13.51 per 220.46 pounds of completed parts of cycles. Austria-Hungary in a recent tariff increased the duty on bicycles and parts thereof from $12.04 to $12.18 per wheel, which increased rate has been embodied in the new German commercial treaty. In the treaty with Germany the duty of $38.57 levied on 220.46 pounds of completed parts of cycles has now been reduced to $36.54.

Of the countries named Russia and Austria-Hungary levy the highest rates of duty on cycles.

During the past year the German export of bicycles and completed parts[a] to Belgium amounted to 393 tons, to Russia 178.6 tons, to Switzerland 396 tons, and to Austria-Hungary 528 tons.

The German import duty on bicycles, which is represented as having been too low, has in the new tariff been greatly increased, though through the special commercial tariff treaties with Belgium and Austria-Hungary the rates on imports from those countries have been somewhat reduced. Until recently the German import duty on bicycles was $5.71 per 220.46 pounds. The new tariff of $35.70 per 220.46 pounds has been reduced to $23.80 in the treaties or tariffs with Belgium and Austria-Hungary. The new duty on parts of bicycles, $35.70, has been reduced in the treaty with Belgium to $23.80. A duty of $9.52 per 220.46 pounds is now levied on raw material for bicycles, but this in the case of Belgium has been reduced to $5.95.

E. THEOPHILUS LIEFELD. *Consul.*

FREIBURG, GERMANY, *March 13, 1905.*

[a] The German returns for the twelve months ended December, 1904, show the following export of bicycles and parts thereof: Belgium, 356.5 metric tons; Russia, 161.7 metric tons; Switzerland, 349.5 metric tons.—BUREAU OF STATISTICS.

GERMAN NATIONAL EDUCATIONAL INSTITUTIONS.

(From United States Consul Brittain, Kehl, Germany.)

There are in Germany 21 universities, 1 Government academy, 10 Government technical schools, 6 Government veterinary schools, 4 Government agricultural schools, 4 Government forestry schools, 3 Government geological and mining schools, and 4 Government commercial schools. In these 53 national institutions there are employed 4,318 instructors—3,139 in the universities, 758 in the technical schools, 88 in the veterinary schools, 48 in the forestry schools, 60 in the geological and mining schools, and 101 in the commercial schools.

In the universities there are 281 theological instructors (192 Protestant and 89 Catholic), 300 in the department of law, 948 in the department of medicine, 1,518 in the scientific department, and 92 teaching the various arts. During the winter term 39,730 students matriculated at the universities, and there were 9,392 auditors, being an increase in the former of 640 and in the latter of 2,279. The women who matriculated numbered 71, and 1,633 were auditors. Women were only permitted to matriculate at Heidelberg, Freiburg, Tübingen, and Würzburg. At Freiburg 31 women matriculated—1 in law, 17 in medicine, and 13 in philosophy; at Tübingen 4 matriculated—2 in medicine and 2 in philosophy; at Heidelberg 32 matriculated—21 in medicine and 11 in philosophy.

Women attended the lectures at all the universities excepting Greifswald, Münster, and Rostock. The universities having the largest number of women auditors were those of Berlin and Strassburg, 657 and 224, respectively.

The number of students who matriculated at the various universities during the winter of 1904–5 was 38,474, as follows: Berlin, 7,774; Bonn, 2,568; Breslau, 1,870; Erlangen, 942; Freiburg, 1,501; Giessen, 1,069; Göttingen, 1,574; Greifswald, 705; Halle, 1881; Heidelberg, 1,371; Jena, 958; Kiel, 751; Konigsberg, 932; Leipzig, 3,880; Marburg, 1,276; Munich, 4,766; Rostock, 556; Strassburg, 1,395; Tübingen, 1,407, and Würzburg, 1,208. Of these students Prussia furnished 21,195; Bavaria, 4,636; Saxony, 2,575; Baden, 1,636; Wurttemberg, 1,427; Hessen, 1,104; Alsace-Lorraine, 1,059. Foreign countries were represented by students as follows: Russia, 975; Austria, 631; Portugal, 8; Switzerland, 313; Belgium, 14; England, 157; Turkey, 28; Bulgaria, 96; Italy, 32; Roumania, 78; Spain, 28; France, 67; Luxemburg, 39; Servia, 55; Greece, 54; Netherlands, 13; Sweden and Norway, 40; Denmark, 10; America, 295; Africa, 19; Asia, 110; Australia, 8.[a]

JOSEPH I. BRITTAIN, *Consul.*

KEHL, GERMANY, *March 6, 1905.*

[a] The number of students matriculated from the various universities is 1,772 in excess of the matriculations by countries, according to Consul Brittain's figures.

GLASS-HEAD PIN MANUFACTURERS' SYNDICATE.

(From United States Consul Brundage, Aix la Chapelle, Germany.)

The glass-head pin manufacturers of Aix la Chapelle are contemplating the formation of a company under the name of the Aachner Pin Syndicate (Limited), with officers and offices located here and to be operative in October, 1905. Each manufacturer or company is to be allotted stock or interest in the syndicate in the ratio of the present output of each factory. Sales, invoices, collections, and business are to be attended to through the syndicate offices in Aix la Chapelle. Prices are to be fixed and the output controlled, but no factory is to be closed.

At present there exists a union of manufacturers, called the "Pin Convention" and conducted upon similar lines, but it is found ineffective in preventing rebates and other business tricks. The present pin-convention prices have been fixed from the standpoint of competition in countries where sold. For instance, the United States has its prices, France has its prices, and so on. The prices for the German market are the highest, followed by Austria and the United States, respectively. The exports to the United States during the fiscal year 1904 amounted to $163,224.

France and Belgium prices quoted include duty to be paid by the manufacturer. The prices for the English market are the lowest.

The vigilance of New York custom-house officials has prevented the dumping of surplus products upon United States markets, through cheaper markets or shrewd business methods, not controllable by the pin convention; for instance, pins consigned to England at the cheaper prices fixed for that market, and shipped thence to the United States at lower prices than those fixed for the United States when invoiced through this consulate. This sharp practice was the principal reason for dissolving the pin convention and the formation of the syndicate corporation.

The output of 12 factories averages 1,500,000,000 glass-head pins a year. This industry has comparatively no opposition in continental Europe.

Aix la Chapelle is also the manufacturing center of hand and sewing machine needles for continental Europe. China is the largest customer for hand-sewing needles. Aix la Chapelle needle and pin products are the results of hand labor, all machine inventions up to the present having proved unsatisfactory.

FRANK M. BRUNDAGE, *Consul.*

AIX LA CHAPELLE, GERMANY *March 4, 1905.*

LABOR UNIONS IN SPAIN.

Under date of March 15, 1905, United States Consul Bartleman, Seville, transmits the following article, on Labor Unions in Spain, from the Heraldo de Madrid of March 14:

In less than five years (March, 1900, to February, 1905), thanks to the active measures of its leaders and the conscientiousness with which managing committees have conducted the campaign, the Labor Federation has been able to increase the number of unions from 69 to 373 and the membership from 14,737 to 56,905. The progress of the organization has been general in the whole of Spain, as is proved by the following statistics of the number of unions and members:

Labor unions and membership in Spain in 1900 and 1905.

	1900.		1905.		Increase.	
	Unions.	Members.	Unions.	Members.	Unions.	Members.
Castile and Leon	26	10,765	161	29,215	135	18,450
Basque Provinces	16	1,425	62	4,925	46	3,500
Valencia	6	248	48	8,380	42	8,132
Andalusia	.....	.....	24	2,321	24	2,321
Asturia	6	1,475	24	3,155	18	1,680
Galicia	3	110	21	2,601	18	2,491
Catalonia	11	706	16	2,819	5	2,113
Murcia	.....	.....	10	2,198	10	2,198
Navarra	.....	.....	9	342	9	342
Aragon	.....	.....	4	357	9	357
Balearic Islands	1	25	6	532	5	507
Total	69	14,737	373	56,905	304	42,168

The trade branches which contribute the largest quota of members are: Builders, etc., 12,361; field laborers and gardeners, 6,046; wood workers, 4,521; seamen, 4,091; printers, 3,718; metallurgists, 3,459; victualers, all branches, 3,168; miners, 3,009.

INDUSTRIAL ACCIDENTS IN FRANCE.

(From United States Consul-General Skinner, Marseille, France.)

The following statistics are from the report of the minister of commerce, February 27, 1905, in regard to accidents occurring in industrial establishments. There were killed or injured in industrial accidents in France in the four and one-half years, from July 1, 1899, to December 31, 1903: Males under 16 years of age, 1,282; males over 16 years of age, 41,094; females under 16 years of age, 238; females over 16 years of age, 1,549; total, 44,163.

The deaths included in the foregoing numbered 6,962. There were 756 cases of permanent total incapacity and 36,445 cases of permanent partial incapacity. The number of wives or husbands of persons killed was 5,440, the number of children of those killed was 8,461, and the number of parents, etc., left was 1,232.

Industrial accidents in France in the period from July 1, 1899, to December 31, 1903.

Year.	Total number of accidents.	Deaths.
1899 (second half)	899	534
1900	6,543	1,562
1901	10,627	1,729
1902	12,241	1,613
1903	13,853	1,524
Total	44,163	6,962

By groups of industries the accidents judicially settled were divided as follows:

Industrial accidents in France from July 1, 1899, to December 31, 1903, by groups of industries.

Trade.	Number of accidents.	Percentage of total accidents.
Metals	9,093	20.59
Public works and buildings	7,673	17.38
Freight handling and transportation	7,635	17.29
Extracting industries (mines)	4,992	11.30
Wood industries	4,154	9.41
Textile industries	2,833	6.42
Comestible industries	2,509	5.68
Chemical industries	1,551	3.51
Stone cutting, brick working, etc	1,225	2.77
Paper, rubber, etc	1,101	2.49
Agriculture and forests	737	1.67
Hides and leather	583	1.32
Undistinguished industries	77	.17
Total	44,163	100.00

ROBERT P. SKINNER, *Consul-General.*

MARSEILLE, FRANCE, *March 2, 1905.*

COLLAPSE OF BRITISH SEED-POTATO BOOM.

(From United States Consul Mahin, Nottingham, England.)

Daily Consular Reports, No. 1900, March 14, 1904, gave an account of the enormous prices paid in Lincolnshire for certain varieties of seed potatoes, the record price being £450 ($2,190) for 1 pound of Eldorados.

A contributor to the Nottingham Guardian of March 17 announces, after an "exhaustive investigation" in Lincolnshire, that the bubble has burst, and that the Eldorado is now obtainable for less than a shilling (24 cents) a pound. His conclusion is that the collapse was not due in any degree to a lack of disease-resisting power in that tuber. The testimony of growers of the Eldorado agreed that its disease-resisting power was remarkable. According to one deponent, it was the hardiest seed potato on the market, while another considered it

"the most disease-resisting potato that has ever come before the British public." The most antagonistic witness conceded its "wonderful power," but thought that the Evergood and Royal Kidney were superior.

The investigator notes many explanations given for the Eldorado's downfall. Last year's harvest was not good, and farmers are short of money; other potatoes fell in price, and the Eldorado was sympathetically affected; dealers who would not pay a fancy price for it "ran it down," to excuse their not having it for sale, and so on. These reasons did not seem to the investigator to be satisfactory, and he finds the most rational explanation to be as follows:

A well-known grower has declared that the Eldorado is not a new potato at all, but a "sport" from another variety, and although this is utterly discounted by almost all who have grown the Eldorados, the assertion has undoubtedly shaken public confidence. It matters not one iota whether the potato still possesses all the attributes originally claimed for it, if the public lose confidence and there is no demand, it instantly becomes a drug upon the market. The story is told that in a certain large town in the Midlands "sovereigns fresh from the mint" were offered by a street vendor at a penny each, but the public had no faith, and consequently declined to buy. It may be that the present disposition to treat the Eldorados is a striking parallel.

A contributory cause of the Eldorado's loss of prestige is believed to be the extensive practice of forcing it under glass and taking cuttings from the product—a practice discountenanced by Lincolnshire growers generally as producing abnormal and untrustworthy results, besides impairing quality. Concluding, the investigator says:

Combine, then, with the shaking of public confidence the fact that the figures realized by the potatoes last year were the product of cornering [the report from this consulate noted the "deliberate cornering" of the Eldorado]—a policy impossible of continuance owing to the large number of people who purchased a few pounds and who consequently have become possessed of a ton—and it is easy to realize why Eldorados are quoted now at anything from 10d. (20 cents) to 2s. (48 cents) per pound, according to the quantity taken.

According to the same authority, the Northern Star, noted as ranking next to the Eldorado, has not fallen so far in public estimation as the latter, though in common with all the fancy-priced seed potatoes it has been materially affected. No opinion is offered as to the probable future of these varieties.

FRANK W. MAHIN, *Consul.*

NOTTINGHAM, ENGLAND, *March 17, 1905.*

BLEACHED COTTON GOODS IN ANTIGUA.

(*From United States Consul Estes, Antigua, British West Indies.*)

In compliance with a request from an American cotton manufacturer, I will say that after a careful inquiry into the market here I see no reason why cotton goods can not be supplied to this market from the United States as well as from England.

The principal kinds used are as follows:

Dimensions, price, and principal kinds of bleached cotton goods used in Antigua.

Kind.	Width.	Length.	Price in Manchester.
	Inches.	*Yards.*	*Cents.*
Sheeting	70		17½
Sheeting	80		20
Sheeting	90		23
Shirting	32		5½
Madapolams	36		5
Lawns	28	40	4½
Lawns	29	40	5
Lawns	28	40	3½
Lawns	28	40	4

The duty on this class of goods is 13½ per cent, and is the same on English as on American products. The freight rate is considerably less from the United States, one merchant placing it as high as 7 per cent in favor of the United States as against Manchester. One of the greatest drawbacks, however, is the uncertainty and irregularity of the steamer service from New York. Many more steamers arrive from the United States in a year than from England, but they have no schedule. One week three ships may arrive, followed by a month between mails, while from England there is a subsidized service that arrives and departs regularly every two weeks.

I can not but think the opportunities for the increased sale of American goods would be helped if the commission merchants supplying this trade were more reasonable with customers and would use more care in filling their orders, not substituting what is on hand for what is really wanted.

W. R. ESTES, *Consul.*

ANTIGUA, BRITISH WEST INDIES, *February 25, 1905.*

WORLD'S COPPER PRODUCTION.

Under date of March 13, 1905, United States Consul R. M. Bartleman, of Seville, Spain, transmits the following statistics of the world's copper production for the last three years, being the translation of an article which appeared in the Revista de Economia y Hacienda, Madrid, of March 11. The figures for 1904, although not absolutely accurate, have been obtained through the most reliable source.

The world's production of copper in 1902, 1903, and 1904.

Country.	1902.	1903.	1904.
	Metric tons.	*Metric tons.*	*Metric tons.*
United States	294,297	311,586	349,866
Mexico	35,785	45,315	52,500
Spain and Portugal	49,790	49,740	50,000
Chile	28,930	31,100	33,000
Japan	28,775	31,360	32,000
Australia	28,640	29,000	30,000
Germany	21,605	21,205	21,500
Canada	17,485	19,320	21,500
Russia	8,000	10,320	10,000
Cape Colony	4,450	5,230	7,250
Peru	7,580	7,800	7,000
Norway	4,565	5,915	6,000
Italy	3,370	3,100	3,250
Newfoundland	2,000	2,060	2,000
Bolivia	2,000	2,000	2,000
Austria-Hungary	1,500	1,385	1,500
Turkey	1,100	1,400	1,500
Miscellaneous	1,295	1,080	1,300
Total	542,167	578,876	632,166

Spain, which twenty-five years ago was first in the world's production of copper, now ranks third.

The development which has taken place in the world's production of copper since the beginning of the nineteenth century may be observed as follows:

World's production of copper, by decades, from 1800, and in the period 1901–1904.

Period.	Production.	Increase.
	Metric tons.	*Per cent.*
1801–1810	91,000	.....
1811–1820	96,000	5
1821–1830	135,000	41
1831–1840	218,400	60
1841–1850	291,000	28
1851–1860	506,999	80
1861–1870	900,000	77
1871–1880	1,189,000	32
1881–1890	2,373,398	86
1891–1900	3,708,901	63
1901–1904	2,269,199	53

ALCOHOL FOR ILLUMINATION AND MOTOR POWER IN VENEZUELA.

(*From United States Consul Hurst, La Guaira, Venezuela.*)

Exhaustive tests have been made in Venezuela with French and German alcohol lamps, chandeliers, and street lamps for illuminating purposes with such favorable results that it is proposed to introduce the system of alcoholic lighting as far as possible throughout the country. Although it has the appearance of novelty, the present determination is the consequence of a threefold condition that may be epitomized in the great consumption of kerosene, an article produced abroad; the burdensome price of the kerosene, which, with freights, duties, and commissions, amounts to some 58 cents a gallon, and the vastly excess-

ive production of cane alcohol that has decreased the returns from many flourishing haciendas in several States and rendered a number of them inoperative.

Alcohol stoves, burners, and motors, in addition to illuminating lamps, are, it is thought, likely to be more generally used, and with this presumption a Presidential rescript abrogates for a term of two years from March 27, 1905, the imposts previously established by law on all alcohol that may be distilled in Venezuela for use in such machines and lamps. To render the measure further effective another decree removes for a like period all customs duties on alcohol lamps, stoves, burners, motors, and their mechanical supplies.

Not one of these supplies is manufactured here, and hence an excellent opportunity seems at hand for an extensive and permanent business in contrivances that are suitable, safe, and moderate priced. Although gas and electricity are installed in the larger towns, petroleum is principally used by most well-to-do families, and in humbler homes candles and dips furnish light. With the fostering aid of the Government it is hoped that economical illumination from cane alcohol will be extensively used in Venezuela in the near future.

CARL BAILEY HURST, *Consul.*

LA GUAIRA, VENEZUELA, *March 28, 1905.*

COFFEE TRADE OF BRAZIL.

(*From United States Consul-General Seeger, Rio de Janeiro, Brazil.*)

The coffee trade in Brazil is very dull and declining, probably on account of the fact that the present crop much exceeds the prognostications made at the beginning of the harvest year. The estimates averaged 9,500,000 bags of 60 kilos each (1,256,634,000 pounds), while the crop will probably be at least 10,500,000 bags (1,388,912,100 pounds).

The prospect for the next crop (1905–6) is most satisfactory. The weather has been very favorable, with plenty of rain followed by very warm temperature. The estimated yield varies between 11,000,000 and 12,000,000 bags (1,455,050,700 and 1,587,328,100 pounds).

In my report of November 12, 1901,[a] I expressed the opinion that the Rio and Santos coffee markets, owing to increased production and stronger competition, would gradually undergo a change, eliminating middlemen and smaller dealers. This process has been going on ever since, and the Brazilian coffee trade concentrates itself more and more in the hands of relatively few houses in the United States and in Europe commanding large capital. In this connection it may

[a] Printed in Advance Sheets of Daily Consular Reports for January 3, 1902 (No. 229).

be noted that the old and very important coffee firm of J. W. Doane & Co. announced to-day that it would liquidate its Brazilian business and close its Brazilian offices forthwith.

EUGENE SEEGER, *Consul-General.*

RIO DE JANEIRO, BRAZIL, *March 14, 1905.*

CANADIAN WOOLEN MILLS IDLE.

(From United States Consul Worman, Three Rivers, Canada.)

The woolen manufacturers of Ontario and Quebec are facing an acute crisis because of their inability to compete with British imports. It is claimed that unless relief in the way of increased protection is granted within a month every loom in the province of Ontario will be idle.[a]

The assignment is announced of the Cronkheight Brothers, of Thessalon, Ontario. The liabilities are said to be heavy, and it is understood that the unsecured creditors will realize but little. The National Woolen Mills, at Streetsville, Ontario, are in liquidation. The Canadian Woolen Mills are also liquidating. The Maple Leaf Woolen Mills, at Markham, Ontario, have been closed down and the mills are advertised for sale.

United States Commercial Agent Shotts, of Sault Ste. Marie, Ontario, in his report in Daily Consular Reports, March 22, 1905, quotes from The Canadian Manufacturer of February 3, 1905, on the effects of preferential tariffs in Canada, as follows:

The only important effect the preference has developed in favor of British manufacturers has been to overload Canada with British textiles and to make the once fairly prosperous Canadian textile industry almost a thing of the past. No new capital is now being invested in producing textile goods in Canada.

JAMES H. WORMAN, *Consul.*

THREE RIVERS, QUEBEC, *March 23, 1905.*

PRINCE EDWARD ISLAND TUNNEL.

(From United States Consul-General Holloway, Halifax, Nova Scotia.)

Prince Edward Island, the most populous of the Dominion provinces, is separated from Nova Scotia by the Northumberland Strait, 7½ miles wide, which is frozen during the winter and makes communication with the mainland very difficult. Public sentiment has been in

[a] A report from Consul-General Holloway, of Halifax, Nova Scotia, says that the increase asked for is 10 per cent. The present duty on woolen goods is 30 per cent, and the manufacturers ask that the duty be raised to 40 per cent.

favor of making a tunnel under the strait for the use of trains, and the feeling grows stronger each year. This winter communication was cut off two months, and citizens of the island have begun afresh to talk of building a tunnel. A strong delegation recently visited Ottawa to induce the Dominion government to indorse bonds to encourage the undertaking, which will require $10,000,000 outlay and six years for completion. The delegates report that they found much sympathy among the Dominion officials as well as among the members of Parliament. The delegation did much to remove the general impression that when the steamers recently resumed their trips after two months' blockade the trouble was over; on the contrary, the trouble will go on for months to come. Five hundred carloads of freight for the island await transportation, and the winter boats can barely keep pace with the new freight offering. Cars arrived at Pictou in January which may not reach the island till May or June.

The impression grows that, in view of the aid the government is rendering to railroads and mining and manufacturing throughout the Dominion, something should be done to connect the island with the mainland, and that a new and strong winter steamer should be furnished to bridge the time until a tunnel is secured.

W. R. Holloway, *Consul-General.*

Halifax, Nova Scotia, *April 3, 1905.*

CANADIAN AND UNITED STATES DIAMOND DRIFTS.

(From United States Consul Worman, Three Rivers, Quebec.)

A recent report has been widely circulated that the northern section of Canada possesses diamond drifts. Dr. H. M. Ami, of the geological survey, Ottawa, when interviewed by a Star representative after his address at Montreal in the Somerville course, in which he referred to the probable existence of diamond drifts in the northern part of the Dominion, said:

Touching the incidental reference which I made last week to the occurrence of diamonds in the glacial drift of Wisconsin, Illinois, and Michigan, which drift material can be directly traced to Canada, within the James Bay and Hudson Bay basin, I have only to add that the matter has been ably treated by Prof. W. H. Hobbs, of Wisconsin University, in the Journal of Geology, Chicago, and in a bulletin issued by the Smithsonian Contributions to Knowledge at Washington, D. C.

Whether or not diamonds will be found in Canada remains to be seen. Not only has the drift material south of the Great Lakes been carefully studied, and the direction of the movements of the ice sheet as well, but the character of the eight diamonds which were discovered in the glacial drift has also been studied.

The reference to diamonds, made at the Somerville lecture last Thursday, was merely incidental in describing the mantle of drift which covered so much of British North America. This drift forms one of Canada's greatest assets in furnishing rich soil for agriculture.

JAMES H. WORMAN, *Consul.*

THREE RIVERS, QUEBEC, *March 15, 1905.*

RAILWAYS CONSTRUCTED AND PROJECTED IN CHINA.

(From United States Consul-General Ragsdale, Tientsin, China.)

I submit herewith what is believed to be a complete schedule of railways constructed and projected in China.

RAILWAYS CONSTRUCTED.

Eastern Chinese: Russian money, loaned by France; from Siberia to Yingkau. The Chinese Government has 5,000,000 taels[a] ($3,660,000) invested in this road.

Southern Manchuria: Russian capital; from Yingkau to Port Arthur and Dalny.

Chingchin: From Peking to Tientsin, 80 miles; British capital, and 2,000,000 taels ($1,464,000) of Chinese capital.

Chinyu: British capital; from Tientsin to Shanhaikwan, 131 miles.

Kwanwai: British capital; from Shanhaikwan to Hsinmintun, 240 miles, costing 16,000,000 taels ($11,712,000).

Kwanwai Chihli: Branch lines beyond Shanhaikwan; one from Chinhuso to Hsinmintun; one from Niuho to Nanpiao coal mines, costing 1,500,000 taels ($1,098,000).

Chinpao: Belgian and French capital; from Tientsin to Paotingfu. This is a portion of the Luhan line.

Luhan: Belgian and French capital; from Lukuchiao to Hankau, 933 miles; capital, 40,000,000 taels ($29,280,000), of which 13,000,000 taels ($9,516,000) is owned by the Chinese Government.

Luhan branches: From Linliho to Chukutien in Fangshan district, 9 miles; from Jungtsu to (1) Kaifeng 57 miles; to (2) Honanfu, 83 miles; from Yencheng to Chuchiatien, 40 miles; capital, 1,700,000 taels ($1,244,400).

Sunghu: Belgian and French (British?) capital; from Shanghai to Wusung, 10 miles. Paid from the Luhan money.

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[a] The consul-general does not designate the particular tael used by him in his estimates. The United States Treasury recognizes and values sixteen different Chinese taels. In its estimates for the quarter ended April 1, 1905, the lowest tael, the Shanghai, was valued at 65.7 cents, and the highest, the haikwan or customs tael, at 73.2 cents, at which value (73.2 cents) the reductions have been made throughout the report in the Bureau of Statistics.

Kiaochi: German capital; from Kiaochau to Chinanfu, 343 miles; capital, £15,000,000 ($72,997,500).

Lungchau: French capital; from Lungchau, in Kwangsi, to Annam, 50 miles; capital, 9,000,000 taels ($6,588,000).

Chengtai: Russian, with French capital; from Chengtingfu, in Chihli, to Taiyuenfu, in Shansi, 167 miles; capital, 6,840,000 taels ($4,392,000).

Tuehhan: United States; from Canton to Hankau, 800 miles; capital, 40,000,000 taels ($29,280,000).

RAILWAY CONCESSIONS GRANTED BY CHINA.

Chinchen: To England and Germany; from Tientsin to Chinkiang, 600 miles; capital, £7,400,000 ($36,021,000).

Branch lines: From Tichu, in Shantung, to Chenting, in Chihli, and from Chinting, in Shantung, to Kaifeng, in Honan.

Huning: To England; from Shanghai to Kiangning, 233 miles; capital, £3,000,000 ($14,599,500).

Suhangyung: To England; from Suchau to Hangchau and to Ningpo, 1,677 miles.

Chinkuang: To England; from Canton to Kaulung, 90 miles.

Puhsin: To England; from Puku, in Kiangning, through Anhui, to Hsinyang, in Honan, 333 miles.

Tsepu: To England; from Tsechau, in Shansi, to Puku, in Kiangning.

Tienyueh: To France; from Annam to Mengtzu and Yunnan. The Chinese Government has 1,000,000 taels ($732,000) invested in it.

Tienmien: To England; one from Tengyuen, in Yunnan, to Burma, and one from Shunning to Burma.

JAMES W. RAGSDALE, *Consul-General.*

TIENTSIN, CHINA, *March 22, 1905.*

AMERICAN HOSPITAL SUPPLIES FOR CHINA.

(From United States Vice-Consul Gracey, Nankin, China.)

In a recent conversation with his excellency Chou Fu, viceroy of the Liangkiang provinces, located in Nankin, I was told certain particulars of a scheme which he is desirous of carrying through regarding a large foreign-modeled hospital at this port.

It is his intention to employ three or four foreign doctors and several of the Chinese student graduates who have studied medicine under foreign tutors or in foreign countries. The viceroy has recently presented "buttons" (Chinese degrees of official rank) to the medical graduates of the American Methodist Episcopal Mission School in this city, and has offered to find positions for such of these men as are not

otherwise provided for. I presume it is his idea to use these men in his proposed hospital scheme.

I had a long conversation with the viceroy regarding American hospital appliances, chemicals, etc., and he has requested me to secure for him catalogues, etc., of such furniture, instruments, medicines, etc., as are necessary in a thoroughly equipped modern hospital. It is probable that a German physician will be put in charge of this work, though it will be under the nominal superintendence of some Chinese doctor. Doctor Wan, a brother of B. C. Wan, who was recently interpreter at this consulate, has been spoken of as the probable appointee.

Manufacturers and chemists of the United States should send catalogues, etc., to this consulate for the viceroy. It would be well to send them in duplicate, in order that one copy may be retained in the archives of this office.

WILBUR T. GRACEY, *Vice-Consul in Charge.*

NANKIN, CHINA, *March 22, 1905.*

CHINESE COOLIES IN THE PHILIPPINES.

(From United States Consul Anderson, Amoy, China.)

The excess of imports into Amoy of gold and silver as money over exports last year amounted to about $500,000. The excess of imports other than money over the exports, including imports from native ports, was about $10,000,000 gold. The total balance of trade against the district therefore was about $10,000,000. This has been the case year after year for almost two decades. On the face of things the port long ago ought to have been drained of money or be in debt beyond redemption. Practically, however, the people of nearly all this portion of China are as prosperous as ever, and indeed more prosperous than usual. The explanation is to be found in the fact that fully 2,500,000 Chinese from Amoy and its tributary territory are in the Straits Settlements and the Philippines, and they send home each year not only enough money to pay this large trade debt but even to build up credits and maintain a constantly increasing population dependent upon money received from abroad for its support.

The part the Philippine Islands play in this trade is, in some respects, its most notable feature. By far the greater number of Chinese who leave Amoy for work each year go to the Straits Settlements, where they are employed in sugar cultivation and other crop work. The wages received are greater than they would secure at home, but not so great by a large margin as obtainable if they were allowed to enter the Philippines. The trip to the Settlements is comparatively short and cheap. In many cases it represents a season's

sojourn. The trip to Manila is a more serious undertaking; it not only costs more but the Chinese entitled to enter are comparatively few, and they do not care to risk endangering their right to enter and remain by frequent trips back and forth. The migrations to the Straits and similar ports represent a movement which may cease almost any time by reason of a poor crop or temporary setback. The Philippine traffic represents almost a permanent residence and a steady drain upon the islands to support a comparatively idle, or at least an alien population, which has no part in the trade, industry, or material economy of the archipelago. While the people of the Philippines secure labor in return for the money paid the cooly immigrants, this money is not expended in the islands and seldom goes into Philippine investments; in short it is, as a rule, shipped out of the country as a drain for which there is no corresponding return or benefit.

The number of Chinese going from Amoy and neighborhood to the Philippines each year is constantly decreasing, but it by no means follows that the amount of money received from those of its former people who are in the islands is decreasing in proportion. The movement toward the Straits Settlements and the Philippines is worth more than passing notice. The records of the customs authorities in this port show the following passenger traffic for 1904:

Passenger movement from and into Amoy, China, during the year 1904.

To and from—	Outgoing.		Incoming.	
	Natives.	Foreigners.	Natives.	Foreigners.
Formosa	5,415	178	6,549	197
Coast ports	16,261	233	14,594	233
Hongkong	5,643	251	19,871	313
Straits Settlements	69,587	13	28,386	13
Saigon	487		14	
Manila	5,080	3	1,059	2
Other places	475	1	294	5
Total	102,948	679	70,767	758

The number of Chinese from Manila direct does not represent the total number returning, many coming by way of Hongkong and coast ports, and credited to such ports instead of to the port from which they first embarked. The total number returning is a trifle more than two-thirds the number who go.

In the case of the Philippines the ability to enter and remain is a distinct asset; it is regarded as a privilege worth considerable money, and it is probable therefore that the number remaining there will be larger in proportion than the number remaining at other ports. Aside from the comparatively few Chinese who are admitted as members of the exempt merchant, student, and official classes, only those can return to the Philippines who have already been there under the provisions of the law framed soon after the United States took possession. It is doubtful if more than half of those going return to China in the

course of the year. Those coming to China must return to the Philippines within a year or forfeit their right to return. The natural result is that the Chinese who enter the Philippines, and regard their right to do so as an asset, stay there until they are ready to retire. Gradually the number going to the islands is decreasing, simply because the number of Chinese outside of the Philippines who are entitled to enter is decreasing. The number who went from Amoy in 1904 was 5,080 plus the hundred or so who went to Philippine ports other than Manila. The number going in 1903 was 5,154, and perhaps 125 more to ports other than Manila. The number for Manila in 1902 was 7,431, and that large number was a decrease of 22 per cent from the 9,537 of 1901, when the stringent regulations in the Philippines commenced to be felt.

This decrease in the number of Chinese going to Manila, however, is merely altering the nature of the relations the Chinese in Manila have to the Chinese in Amoy. Formerly they came to China, as to their homes; they now come for visits, until they are ready to retire. In the meanwhile they are taking to the Philippines minor children, who will be the wage-earners of the family when the older generation retires. All the time they are sending back to China their surplus earnings. There are, according to conservative estimates here, not less than 2,500,000 Amoy district Chinese in the Philippines, the Straits Settlements, and other ports in that part of the world. If each one of these remitted on an average $5 a year, and this is certainly a very low estimate, the income in Amoy from this source would be $12,500,000. The actual income is several times this. It is safe to say that those returning home will bring on an average $75 gold. This means an additional income of something like $5,000,000. What share of this comes from the Philippines is difficult to estimate. Assuming that there are 50,000 working Amoy Chinese in the archipelago, and that on an average they will earn $20 gold a month, their total earnings will amount to $1,000,000 per month and they will live on not to exceed half of this amount. At this rate they would probably remit or save for bringing to Amoy something like $6,000,000 a year. There are something like twenty Chinese residents of the Amoy district who are rated as millionaires and who made their fortunes in the Philippines. He is an unfortunate cooly who does not bring back enough to retire upon, from a Chinese standpoint, after he has been in the Philippines a few years. The figures given are, of course, more or less speculative, but they can not be very far from the truth.

What the relation between the Philippines and Chinese districts like Amoy and Canton is to mean for the future is uncertain. It is improbable that the situation will be much changed for some years to come. One probable result will be that with the development of the Philippines will come greater familiarity on the part of the Chinese with American products, and the prosperity among certain of the Chinese,

which is engendered by American prices for labor, will in turn lead to the use of more and more American goods. With the practical extinction of the Oolong tea trade in the Amoy hinterland this port would be the scene of a stupendous struggle for existence among a great population were it not possible to secure support as at present from abroad. The possible revival of the tea trade would offer relief in what is likely to become an unfortunate situation.

The Chinese coolies going from Amoy to the Philippines will average better physically and otherwise than the cooly class remaining in China. The merchants doing business in China and the Philippines as a rule are a shrewd and prosperous class. Several have made immense fortunes and have large interests in the islands. With nearly all of them, however, it is a case of make money in the Philippines and spend it in China.

GEORGE E. ANDERSON, *Consul.*

AMOY, CHINA, *March 11, 1905.*

INTERNATIONAL PETROLEUM CONGRESS AT LIEGE, BELGIUM.

Under date of May 5, 1905, the Acting Secretary of State informs the Secretary of Commerce and Labor that a note has been received from the Belgian minister at Washington, stating that there will be held at Liege, Belgium, in connection with the international exposition, September, 1905, an International Petroleum Congress, and extending an invitation to this Government to be officially represented.

The Department of State will issue certificates of designation as delegates to this congress to any persons the Secretary of Commerce and Labor may nominate to represent the United States, who will be willing to attend the congress at their own expense, without compensation from this Government.

The programme of the congress shows that the discussion will include important questions, especially the utility of an international agreement for the unification of the laws and regulations relative to the quality of illuminating petroleum.

Copies of the prospectus of the congress are on file in the Bureau of Statistics, Department of Commerce and Labor.

GERMAN INDUSTRIES IN 1904.

(From United States Consul-General Guenther, Frankfort, Germany.)

The chamber of commerce for the city and district of Cologne has recently presented to the Prussian minister of commerce its report for 1904, which covers the industrial condition of Germany, with marked references to trade with the United States.

I make the following extracts:

The improvement in 1903, following upon the severe economic crisis, has continued during 1904. This improvement is in part due to the increased consuming power of our population and to the increase in our exports. The uncertainty regarding the economic condition of the United States embarrassed our export trade, a circumstance all the more weighty as the dependence of Germany's economic life upon the United States is constantly becoming more apparent. When, during the latter part of the last summer, unfavorable reports came from the United States, and its capacity for consumption diminished, serious difficulties were created in the world's markets for German exports. Only when in the last quarter of 1904 the American market became steady did the German export trade in consequence begin to be brisk. The betterment of the German business situation is also apparent in the statistics for newly created joint stock companies. Of these, 300 were established in 1904, with an aggregate capital of 141,000,000 marks ($33,558,000).

The establishment of the steel trust was an event of great importance for the iron industries of Germany, as it steadied production and improved the prices for the manufactured articles. The works were fully employed up to last summer, when a change was caused by the depressed business conditions in the United States and by the increased competition of American industries. This became most apparent in the English market, where Germany lost heavy orders, owing to the competition from the United States. The manufacturers of machinery, car wheels, and of machine tools complain of the depression existing in their lines.

The works manufacturing copper, lead, and zinc, also the foundries, look back upon a prosperous business done in 1904. The exports in barbed wire, wire cables, and some other wire goods were unfavorably influenced by the sales of iron material at cut prices to foreign manufacturers of wire goods. Similar complaints come from German manufacturers and exporters of steam boilers, who declare that German boiler plates are sold so cheap to foreign countries that it pays to reimport them, in spite of added tariff dues and freight. To make matters worse new boiler works are constantly being established abroad, owing to the protective tariffs there existing. These causes make competition from this district nugatory.

Machinery used in the manufacture of tobacco was in great demand, and orders came from numerous countries; there was a good demand from abroad for machinery used in brewing; copper and brass-working industries did well, and there was an increased demand for articles for electrical purposes and for war munition. Automobile works were busy to their full capacity and had orders away ahead into 1905. This industry is assuming great proportions. Motor bicycles were in steady demand, but the prices suffered from competition. The construction of cable roads at home and abroad was fairly active.

In bidding on contracts for railroad cars in foreign markets it has been found that the exportation of cars is getting more and more difficult for Rhenish-German manufacturers.

The works making telegraphic cables were well engaged, but prices have not as yet fully recovered from the panic stage of the last crisis, when German manufacturers sold at almost any price to secure orders.

Furthermore, the high duties on imported cables in many foreign countries act unfavorably, and the low customs rates of the German tariff allow foreign cables to compete in our home market.

Particular attention should be given to the action of the United States in allowing a rebate on duties paid on imported lead, when such is exported in the form of white lead (paint). This enables American manufacturers to throw large quantities of white lead on the European markets to the serious injury of the manufacturers of Europe.

Mention is made in the report of adulterations in Dutch butter, which caused mistrust in dealing in that article.

Importations of simply prepared American pork have almost entirely ceased, and the importation of Danish pork in 1904 increased by 50 per cent. The latter contains a small admixture of salt, and the lungs, heart, liver, etc., are appended to the carcasses.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *March 22, 1905.*

CULTIVATION OF THE CINCHONA TREE IN JAVA.

Under date of March 8, 1905, United States Consul R. M. Bartleman, Seville, Spain, transmits the following translation of an article from the Koelnische Zeitung of March 1 on the cultivation of the cinchona tree, which he thinks should be of interest to tree planters in certain parts of the United States. The article was supplied by a planter in Dutch India:

The seed utilized is obtained from a peculiar species, producing no bark, and consisting only of parent trees, which are the result of numerous crossings and of much labor and patience. Their successful improvement is expressed by the fact that the bark of some of the trees is now capable of a yield of 20 per cent or more of quinine against a former production of only about 2 per cent. The improvement is not limited to the action of pollen, grafting being likewise resorted to. The seed is obtainable at from $1.43 to $11.90 per gram (15.432 grains) and a small improved tree of abundant bearing is purchasable at $4.05. A gram of seed contains about 2,500 seed corns, so light in substance as to be moved by the gentlest breath of air.

NURSERY FOR YOUNG TREES.

A small, oblong-shaped house is constructed from bamboo, open on one side, wherein is deposited the richest earth procurable, previously thoroughly boiled so as to exterminate all insects and weed germs. About forty days after seed has been scattered, a slight green covering of the bed indicates that it has sprouted. As soon as the young plants have developed to the height of about 3 fingers they are replanted in rows in large beds, and thence after a year's time, during which they grow to a height of 1 foot, are transplanted into gardens, where holes are dug, some time previously, in rows 4 feet square. Shortly before transplanting the holes are closed up and the young trees set out by women, each of whom is capable within the ten hours

of daily work (from 6 a. m. to 3 p. m.) of planting 200. Above all, the period following exacts scrupulous cleanliness of the gardens and rigorous cultivation of the soil. It becomes absolutely necessary to ward off a certain species of mosquito, which deprives the leaves of moist cellulose; to guard against the attacks of borers, which penetrate into the stem and destroy its vitality, and to exterminate caterpillars and butterflies. In the third year the trees measure 9½ feet in height and are trimmed by sawing off the lower branches, which, in turn, are stripped of their bark by blows from a wooden hammer.

The bark is conveyed to the factory and there dried either by exposure to the sun or in large furnaces, a process by which it loses one-third of its original weight. When thoroughly dry the bark is removed to a water mill where it is reduced almost to powder. In this state it is packed into sacks of from 176 to 220 pounds and shipped to Europe, where the quinine is extracted. A similar harvest may be reaped every year thereafter until the twelfth, in which the tree is cut down and used, even the bark being removed also from the root.

Large plantations gather in annually about 2,000,000 pounds (dried), worth from about 10 to 13 cents per pound.

OUTBREAK OF GLANDERS IN DUBLIN.

(From United States Consul Moe, Dublin, Ireland.)

The present outbreak of glanders among horses in and near Dublin has led to the strict enforcement of the regulations governing animal diseases. The Dublin county council has taken steps to minimize or eradicate the danger of infection. A number of horses have been killed, and orders have been given to isolate horses wherever they are presumed to have been in areas of infection.

When the outbreak was reported a special meeting of the council was immediately held, and it was promptly decided to slaughter the infected animals and such animals as had come in contact with them. Licenses, which may be obtained from the corporation officers, must be secured for horses coming into the city.

Some of the horses which were killed on suspicion of being infected were afterwards examined and found not to have had the disease. Orders have been given for the removal and slaughter of horses where owners have been unwilling to submit them to the test. The corporation officials have pointed out that it is their duty, under the glanders order, to have horses, whenever found infected, slaughtered at a place called Milbrook, but this course has been found dangerous, as the place adjoins two streams which would readily convey infection. At Mount Venus, which is in a remote district, the veterinary inspector has advised slaughter and burial, and arrangements to this effect have been carried out in order to safeguard the public health. Horses are conveyed thither in covered vehicles in charge of the police to the slaughterhouse, there killed, and the vehicles thoroughly disinfected.

As a precaution against infection, horse drivers have been warned to avoid watering their animals at the public drinking fountains.

In the cities the municipal councils, and in the country the county councils have the right to order the destruction of all animals affected, compensation being paid to the owners. They can also place restrictions upon all horses which have been in contact with others known to have suffered from the disease.

The council of the Dublin Sanitary Association has passed the following resolution:

That we call attention of the metropolitan and suburban authorities to the necessity of issuing a warning to coachmen, grooms, and stablemen as to the infectiousness of glanders and the necessity of great caution in handling animals affected with that dangerous malady.

The roads committee of the Kingstown urban council has taken prompt action in connection with the reported outbreak of glanders in Dublin County, and has decided to have the water cut off from all horse troughs as a protection against infection.

ALFRED K. MOE, *Consul.*

DUBLIN, IRELAND, *March 24, 1905.*

SUGAR INDUSTRY OF LIBERIA.

(*From United States Consul-General Lyon, Monrovia, Liberia.*)

Sugar making was once the most flourishing and paying industry of Liberia. All along the banks of the St. Paul River, in many places hidden from view by the dense foliage, may be found dilapidated boilers, parts of engines, mills, and the grim foundations of buildings. Noxious weeds now cover farms which swarmed with workmen, crushing, cooking, and refining the sugar cane, which grew luxuriantly for miles along the fertile banks of the river. Those were the golden days of Liberia, when great quantities of sugar were sold, not only along the Liberian coast, but in the markets of Liverpool and New York. Labor supplied by the aborigines and captured Kongoes returned by the United States Government to Liberia was cheap and plentiful. The price of merchandise on the ground was high and the planters did not scruple to take advantage of the cheap labor and the high price of merchandise given in exchange.

Among the causes which contributed to the abandonment of the industry were: (1) The fall in the price of sugar, consequent principally upon the introduction of cheap beet sugar; (2) the falling off of American shipping facilities, New York being the principal port to which most of the sugar was shipped; (3) the introduction of coffee, which superseded the sugar-cane industry, and (4) the lack of capital to improve and purchase new machinery. The price of sugar declined from 12 and

14 cents to 5 cents per pound, which was found insufficient to meet the working expenses. The introduction of beet sugar on the Liberian market, the cost of machinery, and the scarcity of laborers, who were drawn away by the growth of the coffee industry, resulted in a general collapse. Every other agricultural enterprise was abandoned for coffee, which brought from 18 to 20 cents per pound, and the farmers grew rich.

So long, however, as sugar-cane farming lasted it paid. One of the farmers who never abandoned the industry declared recently in a conversation on the subject that even 5 cents per pound for sugar paid him. In the present reverses of the coffee industry several small sirup makers and distillers at Crozierville now find in sugar culture a reasonable competence, even with their limited capital and poor machinery.

Sugar cane in Liberia grows luxuriantly. When properly planted and cultivated the stubble will last from three to four years before it begins to deteriorate. The mode of planting is simple: (1) The woods, if high land, must be cleared in the months of January and February, woods of younger growth in February and March; the undergrowth is first cut, then the larger trees; (2) when the farm is thoroughly dried fire is applied to the brush, the ashes serving as fertilizer; (3) the soil is then hoed up in parallel rows, about 4 feet apart; (4) the stalk of the cane is cut in two parts, about 2 or 3 feet from the top, and the top part is stripped of the leaves and laid in the shade until time to plant. When that time comes the cuttings are laid in the rows and covered. When the plants reach a height of 2 or 3 feet they are hilled up on both sides of the row. The land thereafter must be cleaned two or three times in the year. Cane planted in April, May, and June is ready to be cut in December, January, and February.

The process of manufacturing is the same as adopted in other countries. Considering the extreme fertility of the soil and its peculiar adaptation to the production of cane, it may be asserted that no other country presents better advantages for sugar cultivation. Liberian soil properly farmed will yield from $30 to $40 to the acre all along the banks of the St. Paul River and interiorward.

To investors with capital and a reasonable amount of knowledge of the raising of sugar cane and the manufacturing of sugar the industry would be a very lucrative one: (1) The soil is eminently adapted to the cane, which grows, in some instances, from 8 to 10 feet high and as thick as a man's arm; (2) capital would find no difficulty with labor, which is cheap; (3) a reasonable profit could be made upon merchandise used upon the ground, the prevailing custom being to pay labor half goods and half cash. Liberia hopes that this once prosperous and remunerative industry may be again resuscitated.

ERNEST LYON, *Consul-General.*

MONROVIA, LIBERIA, *March 8, 1905.*

PEARL FISHING IN VENEZUELAN WATERS.

(From United States Consul Hurst, La Guaira, Venezuela.)

A Venezuelan citizen has just been accorded by the local Government the exclusive right to exploit the Gulf of Cariaco and adjacent waters for pearls, mother-of-pearl, amber, coral, sponges, and other sea products, not including fish, existing within defined limits. The necessary soundings must be begun within thirty days from date to determine more specifically the location of the beds or banks of the products sought, and active working of the area in question must be begun within six months.

Fishing may be carried on by divers, by machines and other apparatus, but not by trawls that can injure the beds or banks from which the products are taken. The Government is to receive 15 per cent of the net profits during the time of the contract, and will name an official who will have the right to examine the books and intervene when necessary in any phase of the undertaking. Venezuelan consuls in foreign countries will be authorized to facilitate financial negotiations where sales of the products may be effected. Settlements will be made every three months with the exception of the first quarter, the accounting for which may be adjusted six months after the inauguration of the work. Shipments of products must be signed by the Government official named and bills of sales must be countersigned by the Venezuelan consuls in the places where the sales are consummated.

The Government grants free importation of all machines and materials requisite for the industry, and pledges itself to make no similar concession within the region indicated to any other person or company during the time stipulated in the contract. The Government further agrees to impose no national taxes on the enterprise or its products. The contract is to continue in force twenty-five years from the date of its sanction by the National Congress. The concession may be transferred, in whole or in part (previous permission of the Federal Executive having been obtained), with the rights acquired through this contract to any other person or company, but in no case to a foreign government. Any controversies that may arise in the operation of the agreement shall be settled in the competent tribunals of Venezuela and in harmony with its laws.

CARL BAILEY HURST, *Consul*

LA GUAIRA, VENEZUELA, *March 15, 1905.*

COASTING TRADE OF BRAZIL.

(From United States Consul-General Seeger, Rio de Janeiro, Brazil.)

Brazilian coastwise trade has suffered very much of late through the inadequacy of the Lloyd Brazileiro, a line which, through national subsidies, privileges, and so forth, has had heretofore almost the monopoly of the trade. Recently the Freitas Line, of Hamburg, has made arrangements to run steamers regularly between Para and Rio de Janeiro under the Brazilian flag, which must be considered a decided improvement. And now comes the very important German-Brazilian firm of Theodor Wille & Co., of Rio de Janeiro, and establishes a new line of steamers between Rio de Janeiro and Rio Grande do Sul, which will greatly facilitate and improve commerce (but of course afford special advantages to German commerce) between this city and south Brazil. This new line is to be called "Companhia Cruzeiro do Sul." Four fast steamers are now in course of construction for it in Germany, viz, the *Saturno*, *Orion*, *Jupiter*, and *Syrio*. The first steamer of this line will sail from here south in about four weeks. The very much neglected service of the Lagoa dos Patos (Duck Lake) with its important cities, Pelotas and Porto Alegre, and their hinterland, will also be thoroughly reorganized and modernized by the same company. This steamer line will undoubtedly have considerable influence on the development of the trade of southern Brazil in stimulating commerce and industries.

EUGENE SEEGER, *Consul-General.*

RIO DE JANEIRO, BRAZIL, *March 4, 1905.*

MINERAL OUTPUT OF NEW SOUTH WALES.

(From United States Consul Baker, Sydney, New South Wales.)

GENERAL STATISTICS.

The total value of the mineral output of New South Wales in 1904 was $32,012,790, an increase of $1,431,520 on that of the previous year. The total number of persons employed in and about the mines of the State during the year is estimated at 37,837, and is 278 in excess of the number employed in 1903. The value of the plants in operation at the metalliferous mines, including the dredging plants, is $10,157,180.

GOLD AND GOLD MINES.

The total gold mined in New South Wales up to the end of the year 1904 is estimated at 12,258,384 ounces fine, valued at $260,351,365. The yield for 1904 was 269,778 ounces fine, valued at $5,730,545, show-

ing an increase of 15,557 ounces and $330,400 in value, as compared with the previous year.

Cobar maintains its position as the principal gold field of the State, and the output for 1904 amounted to 61,734 ounces fine, valued at $1,311,065. This is slightly below the yield for 1903, and is accounted for by the restricted operations of the Cobar gold mines during the closing months of the year. The Mount Boppy gold mine has contributed an extensive output, and ranks as the premier gold mine of the State. Wyalong is the field next in importance, the yield for the year amounting to 25,895 ounces fine, valued at $549,965, which is the largest since 1900. Rich sulphide ore is being won from the deep levels, and this has given a marked stimulus to the field. The Hillgrove field has supplied a substantial increase, and other divisions from which satisfactory yields are recorded are Araluen, Forbes, Wellington, Orange, Adeling, Stuart Town, Peakhill, Sofala, and Pambula. The quantity of alluvial gold won is in excess of that of the previous year, but it is a noticeable fact that fossicking was not nearly so extensively followed as in previous years.

DREDGING OPERATIONS.

The value of the yield obtained by the dredges during the year was $1,249,180, an increase of $127,365 over 1903. The total value of the yield for the past five years was $2,518,590. The Araluen division is still the principal center of gold-dredging operations, and during the year the 14 plants at work won gold to the value of $321,280. The dredging for tin is now a firmly established industry, and the quantity of tin ore saved by these plants during the year amounted to 319 tons, valued at $130,900. The number of dredging plants in commission at the end of 1904 was 42, valued at $1,177,880.

SILVER, LEAD, AND ZINC.

The value of the exports under this heading during the year is as follows: Silver, silver-lead, concentrates, ores, etc., $10,327,700, lead (pig, etc.), $329,820; zinc (spelter and concentrates), $589,890, a total of $11,247,410. The output for 1904 shows an increase of $3,114,530 over that of 1903 and $3,755,100 over that of 1902.

The record of the Broken Hill mines for the year is one of marked improvement and gratifying progress. A noteworthy feature is the success which has attended the efforts to turn to profitable account the by-products, which have accumulated to such a vast extent during the past years. This is evidenced by the fact that the value of the zinc concentrates exported has increased from $53,125 in 1902 to $589,890 in 1904, and with the numerous processes now in use an extensive output in the future seems assured. The mines at Yerranderie (The

Peaks) have also contributed an increased output. The total value of the production of the silver-lead mines to the end of 1904 is estimated at $191,261,530. The number of men employed in this branch of the industry during the year was 7,071, an increase of 1,036 as compared with 1903.

COPPER.

The value of the output of copper from the mines of this State during the year is estimated at $2,101,935, and falls short of that recorded for 1903 by $211,265. The decrease is accounted for by the closing down of the Burraga mines during the last five months of the year. The returns from the Cobar and Nymagee divisions show that the copper-mining industry is making very satisfactory headway, and as the Burraga mines have resumed work, a considerably augmented output should be recorded during the year 1905. The value of the copper obtained from the mines of New South Wales up to the end of 1904 is estimated at $35,850,425.

TIN AND TIN ORE.

Tin and tin ore to the value of $923,925 is recorded as having been produced during 1904. This is the largest annual output for the past fifteen years. The sustained price has stimulated operations, and a large number of men found profitable employment, particularly in the Tingha and Emmaville divisions. The dredges have also materially contributed to the output, the value of the stream tin won during 1904 being $130,180. The value of the output from the tin fields of the State up to the end of 1904 is estimated at $36,295,315.

COAL, COKE, AND OIL SHALE.

The quantity of coal mined during 1904 was 6,019,809 tons, valued at $9,974,760, a decrease of 335,037 tons and $1,623,540 in value, as compared with 1903. The export trade exhibits a marked decline, and the shipments to foreign ports show a shortage of 662,399 tons, and to Australian ports, 160,928 tons. There has been, however, a satisfactory increase of 478,290 tons in the quantity consumed within New South Wales. The number of persons employed in this branch of the industry during 1904 was 14,034.

The value of coke manufactured in the twelve months amounted to $552,460, and is an increase of $9,640 as compared with 1903. This industry has benefited by the improvement in metalliferous mining, but the price obtained for the commodity was lower than in the preceding year, and consequently only a small increase is shown in the total value of the production.

The kerosene shale raised during the year was valued at $133,855, which is less by $9,230 than that of the output for 1903. The only mine worked during the year was the New Hartley, at Capertee.

OTHER MINERALS.

The value of the other metals and minerals produced during the year is as follows: Alunite, $4,625; antimony, $2,515; bismuth, $61,645; chrome, $6,340; cobalt, $300; diamonds, $58,100; iron (from scrap), $402,520; iron oxide, $1,195; ironstone flux, $33,140; limestone flux, $72,170; lime, $66,250; Portland cement, $273,755; marble, $8,000; molybdenite, $13,630; opal, $285,000; platinum, $5,350; scheelite, $7,030; wolfram, $42,160; sundry minerals, etc., $3,185.

ORLANDO H. BAKER, *Consul.*

SYDNEY, NEW SOUTH WALES, *March 21, 1905.*

MACARONI MANUFACTURE IN FRANCE AND THE UNITED STATES.

(From United States Consul-General Skinner, Marseille, France.)

A comparison of methods prevailing in French and American macaroni factories must be studied with the fact in mind that very different materials are used in each country. The French manufacturer uses semolina, and semolina only, in producing macaroni, and his plan of procedure varies somewhat in accordance with the size of the semolina being utilized. An American correspondent has noted that in my pamphlet on the manufacture of semolina and macaroni the kneading process is spoken of as being performed by a smooth-surfaced wheel revolving in a pan, while in the United States a corrugated wheel performs this work. Probably the corrugated surface is better adapted to American requirements than a smooth one. In France the hard granulated semolina must be worked down into a smooth mass while at the same time the fiber is being drawn out, just as old-fashioned molasses candy is pulled by hand until it possesses a long and fine grain. A corrugated surface would prevent the flattening out of the semolina grain and would contract the fiber rather than lengthen it. In the United States, on the other hand, there is no production of semolina, properly speaking, and the hard-wheat flour or, as I suppose, granulated flour, can very likely be better mixed and worked by the pressure of an uneven surface than by a smooth one.

It is probably a question of time only when we shall have American semolina, as well as American hard wheat, and then our macaroni manufacturers will be compelled to alter their methods. An inspection of the Marseille semolina mills has recently been made by practical men, and if it can be impressed upon them that American manufacturers will prefer semolina to their present materials, the necessary investment to erect semolina mills in the United States will be made. I am personally convinced that the problem of utilizing our hard-wheat crop

in the United States will not be satisfactorily solved until it is utilized as in this country in the manufacture of semolina for the macaroni trade; and I am equally convinced that American macaroni can never fully equal imported macaroni while the manufacturers are compelled to use coarse flour as their raw material.

In the present state of affairs American millers are nonplussed to know how to grind the hard wheat and sell it, and our macaroni manufacturers are prevented, by the absence of a proper material, from developing an industry capable of absorbing the crop. Macaroni ought to be and will be a staple American food product, both excellent in quality and reasonable in price, but before its place is satisfactorily established, there must be a good deal of education all the way up from the farmer who grows the wheat, to the housewife, who must be instructed in the art of handling a food susceptible of many applications.

My former statement, that in the manufacture of macaroni the ends and broken pieces of paste are saved and subsequently boiled for two or three minutes and then worked up into seconds, has not been sufficiently elaborated upon. This remark refers to the broken pieces of finished vermicelli, and small goods generally. These pieces are dropped into water already boiling and are then strained out and mixed with fresh paste, not more than 4 to 5 pounds of the boiled macaroni to 100 pounds of the fresh paste. My informant adds that if the broken goods referred to are large enough to be salable at the cost of fresh semolina, weight for weight, he prefers to so dispose of them, as obviously the fresh semolina will make first-class macaroni, while boiled broken bits can only produce low-grade merchandise. The uneven ends of fresh, moist paste or dough left over from a lot which has been pressed into macaroni or other forms requires no boiling. It should be thrown back into the pan with fresh dough to be simply worked over. In the original operation of mixing semolina and water, the latter is poured upon the former at a temperature varying from 20° to 40° C. (69° to 105° F.), according to the strength of the semolina in gluten. The smaller the proportion of gluten the cooler should be the water. My informant adds that when the exceedingly large grains of some grades of semolina are used the water is brought to a state of ebullition. The same manufacturer mixed his semolina and water in the pan in which they were kneaded or rolled at the time of writing my former report (Bulletin 20, Bureau of Plant Industry, Department of Agriculture[a]). He has more recently arranged to mix the dough in a separate vessel. He has also discarded the wheel rolling in a stationary pan in favor of a revolving receptacle, within which a species of

[a] A series of reports on Macaroni Manufacture in Europe were printed in volume 35, No. 125, Monthly Consular Reports, 1901.

hammer pounds upon the dough, which constantly shifts under its blows. This system is not general, and is even a return to old-fashioned methods. In fact, there is room, on the manufacturing side of this industry, for the manifestation of a great deal of originality and novelty.

Some time ago my informant manufactured for a Paris firm a kind of macaroni made of oatmeal. The product was pronounced palatable, and was well received. The Paris firm, through financial mismanagement, went to the wall, and the Marseille manufacturer could not carry on the business, as the product was covered by a French patent.

This same gentleman tells me that a number of French physicians have lately prescribed macaroni as a complete substitute for milk diet in cases where the patients dislike the latter, the macaroni to be boiled in salt water, and served, of course, without the many additions which are frequently made.

ROBERT P. SKINNER, *Consul-General.*

MARSEILLE, FRANCE, *March 21, 1905.*

QUARTZ-GLASS QUICKSILVER LAMPS.

(From United States Consul-General Guenther, Frankfort, Germany.)

The Frankfurter Zeitung states that Cooper Hewitt, an American, produced the first quicksilver lamp suitable for technical purposes in 1901, and that W. C. Heraus, at Hanau, near Frankfort, has since improved it by the substitution of pure, melted, rock crystal (quartz glass) for ordinary glass. The tedious process of manufacturing quartz glass is compensated for by its immunity from damage by changes of temperature and by its general superiority. In white heat it can be immersed in cold water without showing the least change in form. For this reason quartz glass is especially well adapted for apparatus used for physical and chemical processes, and especially for vacuum tubes required for the quicksilver lamp in various forms. It is also well suited for thermometrical purposes. In the quicksilver lamp its optical qualities are of importance, as it lets the ultraviolet rays of the spectrum pass through perfectly.

In its most simple form the quicksilver lamp consists of a tube of quartz glass about 11.5 inches long and about one-third of an inch in diameter. At both ends quicksilver is contained in enlarged parts of the tube. Into these quicksilver compartments wires of iridium, or of nickel-steel pegs, are inserted for the supply of the electric current. A receptacle, communicating with the tube, is covered with a cylinder of asbestos paper, around which platinum wire is wound. This cylinder serves as an electric-heating apparatus. It produces quicksilver vapor in the tube, by which the quicksilver is

forced into the burner tube until it reaches the other quicksilver compartment, when a short circuit occurs. By automatic means the heating current is cut off, the quicksilver vapor condenses and sucks the quicksilver back into its original position, whereby the light arc forms in the burner tube.

The light is of a greenish tint, is strong, and burns very quietly. A metallic device for cooling, attached to the quicksilver compartments, prevents a too great development of heat. Instead of the straight tube various bent tubes suitable to the special purposes to be served can be used; these concentrate the light strongly. For scientific experiments a pear-shaped vessel is placed between the quicksilver poles. In this the arc light shows especially fine and clear and its diversion or change of form, through the action of a horseshoe magnet, placed close by, can be well observed.

As the light of the quicksilver lamp is extraordinarily rich in ultraviolet rays, it is of peculiar importance in the medical treatment of certain diseases of the skin, such as lupus, after the process by Finsen. For photographing, also, and for other methods of multiplying by the action of light, the lamp will be of great value. The light can be used most effectively, as the quicksilver lamp, in contrast with the electric arc-light lamp, can be placed very near the object under investigation. For some purposes it is placed entirely in a receptacle through which water for cooling passes, and sends its light through a window of rock crystal or glass. In this manner it is possible to get to within about two-fifths or four-fifths of an inch of a light of 1,000 candlepower without feeling the slightest development of heat. The eyes and the skin must be protected from the light of the quicksilver lamp. The operator must either wear spectacles of colored glass, or put a pane of ordinary glass before him, through which the dangerous ultraviolet rays can not pass.

The quicksilver lamp has already shown its value for some purposes, and it is to be taken for granted that it will be further improved and a still larger field of usefulness established for it.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *March 9, 1905.*

MALTA CARRIAGE TRADE.

(From United States Consul Grout, Valetta, Malta.)

Since my report on the carriage trade of these islands was published I have received many American catalogues, price lists, and requests for further information. I would call the attention of our firms to the fact that the roads of Malta are in most cases very narrow, and only carriages of the four-wheeled variety that cut under at a complete angle when turning are required. The American vehicles now

here are limited in number, but they are giving good satisfaction, and their use is increasing. They have been imported by private parties either on account of previous knowledge of them or else at a venture. I know of three carriages on the way over to add to the lot now in use and of a number in prospect.

No house here makes a specialty of carriages; there are many small shops scattered about the islands, but none of them of sufficient size to warrant putting in a stock. As our carriages are more and more used there will be increased orders. Those now here are serving as a good object lesson of what the United States turns out, and it is only by such lessons that we can hope to establish a permanent trade, for I am convinced that once our carriages are appreciably used here they will continue to be used. The nearest competitor is Sicily, but the vehicles made there can not be compared with the American makes. We have wood specially adapted for carriages, which the Sicilians have not, and in this connection there should be a good market here for hubs and spokes, which small manufacturers would have use for.

If there were a fairly good exhibition of American carriages here I am convinced that many sales would result. I am having frequent inquiries and am taking pains to point out to those interested the merits of our goods, but I have only catalogues to use in illustration of my arguments. Later we may be able to find agents here, but the trade at present is wholly with private purchasers. I am doing my best to find a suitable party here who will make a specialty of dealing in American carriages. When found, I hope that one or more of our firms will be sufficiently interested in the Malta trade to send over several samples of their goods for exhibit and sale. Owing to the fact that there is now a direct line between New York and Malta, expensive boxing would not be required, as is the case often with goods that have to be transshipped. A neat, light vehicle, two or four wheels, the latter to have a full turn, should always sell here. Almost all vehicles used here are imported from England, France, and Italy. As a rule they are heavy and cumbersome, and no stronger than the American conveyance. The predominating vehicle in use for pleasure is the heavy-framed dogcart. Many American houses make carts of this variety much more pleasing to the eye. Victorias and broughams are also used to a certain extent. With very few exceptions the carriage shops here are engaged in the manufacture to order of "carrozzini," the native public cab.

To such American houses as may in the future do business with Malta I would especially call attention to the matter of terms. I have often seen orders to American houses given up merely for the reason that parties here found it easier to deal with English, French, German, or Italian houses, although preferring our goods. Sometimes it has seemed to me as though our firms were trying to make it as hard as

possible for Malta buyers to deal with them. A little study of the market and its requirements would in many cases avoid this.

JOHN H. GROUT, *Consul.*

VALETTA, MALTA, *April 10, 1905.*

WATCH, CHEESE, AND CHOCOLATE INDUSTRIES OF SWITZERLAND.

(From United States Consul Higgins, Berne, Switzerland.)

SWISS WATCH INDUSTRY.

There are about 25,000 persons employed in the watch factories of Switzerland, not including several thousand engaged in the "house industry." Of the factory employees over 17,000 are in the Berne district, 3,600 in Canton Solothurn, and 1,200 in Canton Geneva. There are 627 factories, 218 of which manufacture complete watches, 209 cases, and the rest dials, crystals, hands, springs, jewels, and other parts, and watch tools. Of the foregoing 627 factories, 477 are in the Berne district.

The introduction of machinery, and the increase in the demand for nickel and steel cased watches, at the expense of those with silver cases, has caused a gradual decrease in the average prices from year to year as will be seen by the following table:

Average price of Swiss watches exported in 1889, 1897, 1901, and 1903.

Kind.	1889.	1897.	1901.	1903.
Gold	$12.36	$10.56	$9.97	$10.39
Silver	3.28	2.46	2.29	2.31
Nickel and steel	1.98	1.76	1.59	1.46

While the export of gold-cased watches remains proportionately the same, 12.6 per cent, the exports of silver-cased watches decreased gradually from 54.5 per cent of the total export in 1897 to 41 per cent in 1893, during which time the exports of nickel and steel cased watches increased from 32.9 to 46.4 per cent of the total export.

Value of exports of Swiss watches and watch parts in 1901, 1902, and 1903.

Kind.	1901.	1902.	1903.
Gold-cased watches and chronometers	$9,341,972	$8,565,919	$8,569,900
Silver-cased watches	8,136,880	7,068,046	6,215,000
Nickel and metal watches	4,583,943	4,525,657	4,477,500
Finished movements	866,693	923,698	1,117,600
Materials	2,192,164	2,252,310	2,649,800
Total	25,121,652	23,335,630	23,029,800

Value of exports of Swiss watches, and parts thereof, to the several countries in 1902 and 1903.

Country.	1902.	1903.
Germany	$5,350,000	$5,000,000
Great Britain	4,250,000	3,625,000
Russia	2,350,000	2,550,000
Austria	2,200,000	2,140,000
Italy	1,470,000	1,485,000
United States	1,126,000	1,365,000
France	1,103,000	1,125,000
All other countries	4,486,630	5,729,800
Total	23,335,630	23,029,800

SWISS CHEESE INDUSTRY.

There are 740,000 cows in Switzerland. They average 625 gallons of milk a year per cow, a total of 462,500,000 gallons, valued at $44,000,000. Forty-two per cent is used for home consumption and the rest for condensed milk, cheese, and butter. Although representing but one-fifth of the entire milk production, the cheese market dictates the price of milk to all Switzerland. The cheese is made in about 2,000 small creameries, some of which are owned by cooperative societies and others by independent cheese makers. Wholesale dealers buy by contract. Summer cheese made from milk during the time the cows are in the pastures, commands a better price than the winter product made when the cows are stabled. The average price for cheese in 1903 was 15 cents per pound. The total export in 1903 was 53,400,000 pounds, valued at $8,000,000, and was shipped to the following countries:

Value of exports of cheese from Switzerland in 1903.

Country.	Value.	Country.	Value.
France	$2,319,000	Great Britain	$142,000
Germany	1,758,000	Egypt	138,000
United States	1,308,000	Denmark	135,000
Italy	890,000	Other countries	237,000
Austria	574,000		
Russia	273,000	Total	8,000,000
Belgium	231,000		

SWISS CHOCOLATE INDUSTRY.

In 1903 the export of chocolate was eight times as much as it was ten years ago, and the first half of 1904 shows a marked increase over the corresponding period in 1903. The export in 1903 was 13,000,000 pounds, valued at $4,580,000, and was shipped to the following countries: Great Britain, $2,146,000; France, $708,000; Germany, $439,000; Italy, $328,000; United States, $292,000; all other countries, $667,000.

Three years ago the United States bought only $24,000 worth of chocolate from Switzerland; in 1903 the amount it bought was valued at $292,000, and the demand is steadily increasing, a fact that should

occasion concern to the manufacturers of the United States. The raw material for the production of Swiss chocolate—cocoa beans and shells—is imported mainly from Colombia, Brazil, and Central America, and in 1903 amounted to 12,900,000 pounds, valued at $2,260,000.

EDWARD HIGGINS, *Consul.*

BERNE, SWITZERLAND, *March 29, 1905.*

LACK OF STEAMSHIP COMMUNICATION WITH THE LOIRE.

In his annual report for 1904 (which will be printed in the forthcoming volumes of Commercial Relations of the United States), Consul Louis Goldschmidt, of Nantes, France, under date of March 14, 1905, draws attention to the lack of steamship communication between the ports of the Loire and the United States, as follows:

I submit some data concerning the commerce of Nantes, St. Nazaire, and Sables d'Olonne for the year ended December 31, 1904, from which may be seen how very light is the direct commerce between the United States and these ports. The imports and exports stated are very unimportant, but the figures do not prove that the United States does not sell and buy in larger quantities here. A great deal of the trade between the United States and this section of France passes through other French ports, on account of the entire lack of direct steamship communication. St. Nazaire, at the mouth of the Loire, and Nantes, only 38 miles from its mouth, would certainly show a greater amount of commerce with the United States if a steamship line between Nantes and some American port were started. Some efforts in this direction have been made in the past, but without any results. It is to be hoped that the near future may bring about the consummation of this much-desired enterprise.

Nantes is a large manufacturing and distributing center, with excellent facilities, and has considerable maritime commerce, which no doubt will be largely increased when the deepening of the Loire channel is finished, which will permit vessels of deep draft to come up the river and discharge and load their cargoes. If a line of American vessels were to open communication with this port now there would no doubt result a trade which possibly might be light in the beginning, but which would increase as commerce became aware of the facilities offered. Cargoes from American ports are now shipped at New York, brought to Havre or to some British port, there transshipped, and brought by smaller vessels to St. Nazaire or Nantes. The enormous cost of freight when handled so frequently is evident, and there is not the slightest doubt that it affects the importation of merchandise, which in these roundabout ways has to compete with such as is shipped from other countries direct.

LIQUOR IMPORTS INTO LIBERIA.

(From United States Consul-General Lyon, Monrovia, Liberia.)

I submit a few facts concerning the imports of spirituous and malt liquors into the Republic of Liberia, taken from the report of the Government statistician, for the quarter ended March 31, 1904. The quantity of liquors brought in, when compared with that of other articles, such as food stuffs, would seem to offer an inviting field for temperance missionary work. The statistics do not include the rum made in local distilleries, nor the wines made from the palm and bamboo trees by the aborigines, which are drunk in large quantities.

Imports of spirituous and malt liquors into Liberia, Africa, during the first quarter of 1904.

Whence imported.	Quantity.	Value.
	Gallons.	*Dollars.*
England	1,419	882
Netherlands	10,430	5,812
Germany	23,267	8,121
Total	35,116	14,815

The liquors consisted of gin, rum, whisky, brandy, beer, ale, champagne, and wines.

During the same three months the report shows that there were imported into the Republic 128,411 pounds of stockfish, valued at $18,531; 596 barrels of flour, valued at $2,296; 26,047 pounds of smoked bacon, valued at $2,863; 1,476,496 pounds of rice, valued at $26,138; 4,196 pounds of biscuit, valued at $682; and 581 cases of canned meats and fish, valued at $4,499. The imports of spirituous and malt liquors are exceeded in value only by the imports of rice and stockfish—the combined values of the imports of flour, bacon, biscuit, and canned meats and fish do not amount to as much.

ERNEST LYON, *Consul-General.*

MONROVIA, LIBERIA, *March 10, 1905.*

DISCOVERY OF NEW COFFEE TREES.

(From United States Consul-General Guenther, Frankfort, Germany.)

German papers state that the French explorer, M. Chevalier, has discovered three species of the coffee tree in the Kongo district. Compared with other the coffee plants, one of the species of these trees has a remarkable height and yields a very useful fruit. It is called by M. Chevalier "coffea excelsa," and attains a height of 66 feet, while other species reach the height of shrubs. It is a native of the forests adjacent to the eastern tributaries of the Shari, but has also

been found on the banks of the Bata, a tributary of the Cotto, in the Ubangi Basin.

The tree appears to grow at from 1,600 to 2,800 feet above sea level, but does not thrive in lower regions exposed to floods. It has a gray bark with longitudinal furrows, oblong leaves, white, fragrant flowers, and blossoms in February and March. The fruit is gathered only in the valley of the Boro, within the domain of the Sultan of Snoussi. Closer investigations have shown that the tree thrives best in a soil rich in nitrogen and soda, but lacking entirely in potash, phosphoric acid, and lime. The fruit consists of small grains, resembling in shape and size certain kinds of coffee of Abyssinia and Mocha.

In its wild state a 5-year-old tree, about 27 feet high, yields about 1,200 beans, very rich in caffeine. Tests made at Harlem showed the new coffee to be among the best kinds. It yields an infusion of excellent flavor after roasting, and all the experts who have tested it have unanimously pronounced it to be of a very good medium quality.

The French Government intends to make experiments in its Kongo colony in the cultivation and improvement of this wild coffee tree. The natives of Africa harvest the crop in a very reckless manner, climbing the trees, breaking off branches, and causing the trees to die. For this reason Europeans should, as soon as possible, look to the preservation of this valuable product. The French will best succeed with its cultivation, perhaps. According to the recent treaty between France and the Sultan of Snoussi, the Sultan is required to furnish annually 660 pounds of coffee beans from the trees growing in his domain.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *March 21, 1905.*

RAILWAY SUBSIDIES IN CANADA.

(From United States Consul-General Holloway, Halifax, Nova Scotia.)

The movement is increasing for developing the Dominion by building new lines of railroad, and the Federal and provincial governments continue to encourage it by liberal subsidies. The local papers state that a contract has been signed by the underwriters in London for the entire bond issue of $20,000 a mile for the Nova Scotia Eastern Railway, and J. W. Grier, vice-president of the company, will leave to-morrow for England to close contracts for the work. The bond issue over the whole road is about $5,000,000. This road has the promise of a subsidy from the local government of $5,000 per mile, and of $3,200 from the Federal Government. With the $20,000 in bonds this will make a total of $28,200 per mile.

The government has introduced a bill, which has passed its third reading, providing for the payment of a subsidy of $5,000 a mile for the construction of a railway from St. Peters to Louisburg.

The Cape Breton Railway Company has already secured a subsidy of $6,400 a mile from the Federal Government, which, with the assistance granted by the local government, will no doubt enable the company to complete the railway from Point Tupper to Louisburg at an early date.

W. R. HOLLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *April 6, 1905.*

STEAM MOTOR CARS IN IRELAND.

(From United States Consul Knabenshue, Belfast, Ireland.)

The Belfast and County Down Railway is trying the experiment of using steam motor cars for its suburban service out of Belfast, and two of the new cars have just been delivered by the builders. The length of each is 63 feet over all, the car proper being 45 feet in length. The front end is supported by the locomotive and the rear end by a four-wheel bogie of the usual type. The engine is supported on four driving wheels and has two cylinders, each 10 inches in diameter, and 16-inch stroke. The boiler is of ordinary locomotive pattern with 9¾ square feet of grate area and 505 square feet of heating surface in firebox and tubes. The working steam pressure will be 160 pounds and the engine is powerful enough to handle the car and a trailer. The total weight of car and engine is 40 tons. The car proper is of the ordinary American corridor type, with seats for 48 passengers, who will enter and leave by the rear platform. These cars will be put into service between Belfast and Holywood, a seaside suburb 4 miles distant, making five intermediate stops. If these experimental cars prove the success that is anticipated, additional ones will be procured and the service will be extended as far as is practicable on the two lines of the company. This is the first experiment of the kind in the north of Ireland.

S. S. KNABENSHUE, *Consul.*

BELFAST, IRELAND, *April 7, 1905.*

INCREASED CANADIAN RAILWAY RATES.

(From United States Consul Worman, Three Rivers, Quebec.)

Railway rates have been advanced by the most important lines of the Dominion on both passenger and freight traffic, and the protests are as loud in England as here.

One large English firm which makes heavy shipments of tin plate

says that "the increase in the rate means an increase in expense of 2 cents per hundredweight. With the competition before the rise it was almost as much as shippers could do to hold their own in competition with the United States. Freights," this firm understands, "from the United States have not been raised, hence it is contended that the United States is greatly benefited by the rise," and one firm declares that there is a discrimination against British goods in favor of the United States. The Canadian Associated Press reports that the matter is to have the attention of chambers of commerce, and that an agitation is likely to follow.

On March 24, Mr. Gordon, member of Parliament for East Kent, presented to the committee on agriculture the report of the subcommittee on railway rates in western Ontario. It was to the effect that there is discrimination between different parts of Ontario, and that business is driven to the United States by the fact that a lower through rate is given from American points than from points in Ontario on the same road.

JAMES H. WORMAN, *Consul.*

THREE RIVERS, QUEBEC, *March 24, 1905.*

TOURISTS' AUTOMOBILES ENTERING CANADA.

(From United States Consul-General Holloway, Halifax, Nova Scotia.)

Changes have been made in the customs regulations concerning automobiles brought into Canada by tourists, and instructions have been issued to all collectors of customs at the various ports throughout the country that a deposit of $25 and a bond for double the estimated duties is required. Formerly it was necessary to deposit with the collector at the port of entry an amount equal to 35 per cent of the value of the machine.

Examination and appraisement is to be made at the port of entry and the particulars filed on duplicate forms, one of which, together with a receipt for the deposit and a permit, shall be given the tourist. These permits are for three months from the date of the bond. The deposit shall be refunded by the collector on return of the permit with proof of the exportation of the automobile within three months from date of bond. In default of the exportation of the automobile with proof of such exportation to the satisfaction of the collector within three months from the date of entry, the deposit is to be entered as customs duty and the provisions of the bond enforced.

Collectors are given power to use discretion in waiving the requirement for cash deposits when satisfied that the automobile is to be used only within the limits and vicinity of the place where the machine is

brought in. One of the conditions regarding the permit issued for tourist cars is that automobiles shall not be used in Canada for gain or hire.

W. R. HOLLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *April 10, 1905.*

MODERN HOSPITAL FOR THE INSANE.

(From United States Consul-General Mason, Berlin, Germany.)

Among the valuable lessons which most other nations can advantageously learn from the experience and practice of Germany is the scientific treatment of insanity in its incipient stages as a physical and possibly curable disease.

Notwithstanding the rapid and deplorable increase of mental diseases which has followed the stress and strain of modern business and social life, it must be admitted that in the United States, and even in Great Britain, governmental beneficence has not progressed beyond the eleemosynary function of providing asylums in which the more or less hopelessly incurable victims of insanity, who have become a burden and menace to their friends, can drag out in safety and physical comfort the remnants of their stricken lives. If here and there a private clinic has made a hopeful beginning with the pathological treatment of mental diseases, it has been due to individual initiative, and the ministrations of such institutions are restricted mainly to patients of the well-to-do class, leaving the great majority of poor unfortunates to drift on to a stage of mental alienation in which they become dangerous to themselves and those about them, and therefore entitled to the attention and support of the State. Germany has taken a long and important step beyond this, and to give a simple statement of the means employed and some of the results attained is the motive and purpose of the present report.

There are in this country twenty-two psychiatrical clinics or hospitals for the treatment of mental diseases. Most advanced and worthy of study are those located at Kiel, Giessen, Strassburg, Berlin, and, latest and most important of all, the new clinic at Munich, which, in all that relates to perfection of equipment and arrangement as well as to the scientific enlightenment of methods employed, stands undoubtedly at the head of all institutions of its class in this or any other country.

In his forthcoming treatise on the treatment of mental disease Dr. Stewart Paton, of Johns Hopkins University, to whose suggestion and kind assistance this report is primarily due, states the essential conditions and requirements of a modern hospital for the insane as follows:

1. Ease of access. The institution should be near to or within the limits of a city.

2. A limited capacity, in order that every individual patient may be made the subject of special study.

3. Perfect construction, equipment, and organization, in order that a thorough and energetic treatment can be undertaken for all patients for whom there is hope of recovery.

4. A relatively large staff of physicians and nurses.

5. Ample provision not only for the teaching of students, but also for the prosecution of post-graduate investigations and research in clinical psychiatry, psycho-pathology, and in anatomy and pathology of the nervous system.

6. The ready admission of patients and their prompt transference, when necessary, to other more appropriate institutions and provision for outdoor and voluntary patients.

FIG. 1.—The new Psychiatrical Clinic at Munich.

The Psychiatrical Clinic at Munich fulfills, to a degree probably not elsewhere attained, all these requirements and conditions. It was built by the city of Munich at a cost of $500,000. It is conveniently located and accessible; it is in close touch with the medical department of a leading university; and it has for its field of usefulness a city of 580,000 people. It has accommodations for 110 bed patients of both sexes, besides a large dispensary on the ground floor for the treatment of voluntary patients who come in at stated periods, but live otherwise at home. Although opened only a few months ago, the clinic will have treated not less than 2,000 patients before the close of its first year.

The edifice, as shown in the accompanying illustration, was completed last year, and includes the central or administration building,

with two wings, which form the front and sides of an open court or garden. In the central structure are located laboratories for pathological, chemical, and psychological studies, a fine medical library, rooms for the reception and examination of patients, and the private rooms of the director. The apparatus and facilities for every form of research connected with any question relating to preventing, detecting, and curing insanity are as elaborate and perfect as experience and up-to-date science can suggest.

FIG. 2.—Laboratory for anatomical and pathological investigations.

Among various special features are bathrooms arranged with tubs in which the water can be maintained indefinitely at a given temperature, and in which excited patients may be kept, without restraint, for hours to splash at will or even to sleep, using rubber air-cushions as pillows—a soothing and highly efficacious form of treatment at certain stages of mental disease. A small iron door in the wall opens into an oven, in which hot towels are always within reach, to be used in rubbing down the patient on leaving the bath.

A ward of the ordinary size contains space for from five to ten beds, and has among its equipment a small electric cooking stove for heating water or milk, preparing eggs, toast, and other food, a movable bathtub on casters, and electric lights that can be so controlled as to give any desired degree of illumination.

The lecture room has accommodations for 240 students, and is lighted by incandescent electric lamps so placed as to project the light

upward against a white ceiling, so as to give a clear, but mild, diffused light, strong enough for every purpose, but without glare. If during

FIG. 3.—Bathroom for continuous baths to excited patients.

FIG. 4.—Library and reading room for patients.

a day lecture the professor wishes to use kinetoscope or magic lantern illustrations he touches a button, and black shades, running in grooves

at each window, drop and make the interior dark. Another knob is touched and the kinetoscope or lantern picture is thrown upon the screen and the lecture proceeds without a moment's interruption.

The hospital is not free. Patients are divided, according to their means, into three classes, but the treatment and medical services are precisely the same to all, according to their condition and necessities. Patients of the first, second, and third classes pay, respectively, $2.38, $1.36, and 71 cents per day, everything included. Absolutely no restraint is used. All the wards are perfectly warmed, ventilated, and lighted; the walls are of bright, cheerful colors and hung with cheap but good pictures that appeal to a correct artistic taste. In the

FIG. 5.—Ward for male patients.

corner of each occupied ward is a seat for a nurse at a table provided with an electric light so arranged that she may read without disturbing the patients. In the wall are three small niches, each covered with a locked iron panel or door, to which the nurse has the key. By unlocking one of these doors electric light is turned on throughout the ward either suddenly or gradually, as may be desired. Opening the second door calls the director or house physician, and the third is a time recorder, by opening which at brief stated intervals the nurse records on a dial in the director's office the fact that he or she has been awake and in constant attendance.

The medical staff of the Munich Psychiatrical Clinic includes as director Prof. Dr. Emil Kraepelin, one of the foremost German specialists in mental diseases; First Assistant Physician Doctor Gaupp,

and Doctor Altzheimer, assistant physician and director of the laboratory. These and two other assistant physicians are paid; the others are young physicians who receive for their services free board and lodging but no other compensation. The educational advantages offered by the clinic form one of its most valuable assets. These include oral and clinical instruction not only to medical students but to practicing physicians who wish to become competent practitioners or specialists in mental diseases, and to lawyers who seek to specially qualify themselves for practice in the large and unfortunately growing class of cases that involve questions of mental responsibility. The clinic also serves as a tribunal of highest authority to determine the condition of patients who are involved by charges or litigation

FIG. 6.—Living room for male patients.

which hinge on the fact or degree of mental aberration. Such a patient is kept under expert observation and subjected to tests that finally give a definite diagnosis of his condition, which is no longer left to be decided by the academic opinion of a medical expert, caught by the artful hypothetical questions of a shrewd opposing attorney.

Thus constructed, equipped, and administered, the modern psychiatrical clinic in Germany meets and fulfills two fundamental needs that exist in greater or less degree in every city or large town in the United States, namely, that of better facilities for the skillful treatment, care, and possible cure of cases of incipient and acute insanity; and, secondly, adequate provision for instruction in treatment and in the investigation of practical problems upon the solution of which must depend

the arrest of increasing insanity among the people of the State. Its inestimable service to the community is that it provides for saving an indefinite but considerable percentage of the victims of incipient mental disease, and restores them to lives of usefulness instead of leaving them to degenerate into a menace to society and a burden to the State. It provides the most consummate examination and treatment at a stage of the disease when there is the most chance of averting or arresting an attack of real insanity. It detects and takes timely charge of the smaller but important class of patients who, without the knowledge of their friends, are on the border line of insanity, and liable at any time to become suddenly dangerous to themselves or others.

Its benificent function is the prompt application of every known resource of detection and prevention to the whole insidious group of mental diseases which have become a penalty of the intense, overwrought life of modern society, or are induced by poverty, self-indulgence, or inherited tendencies. Public benevolence and private philanthropy can fulfill no higher or more valuable purpose than to bring the ultimate resources of science to the support of a cause like this.

FRANK H. MASON, *Consul-General.*

BERLIN, GERMANY, *April 8, 1905.*

SUGGESTED FISHERY INDUSTRY OFF NORTHERN BRAZIL.

(From United States Consul-General Seeger, Rio de Janeiro, Brazil.)

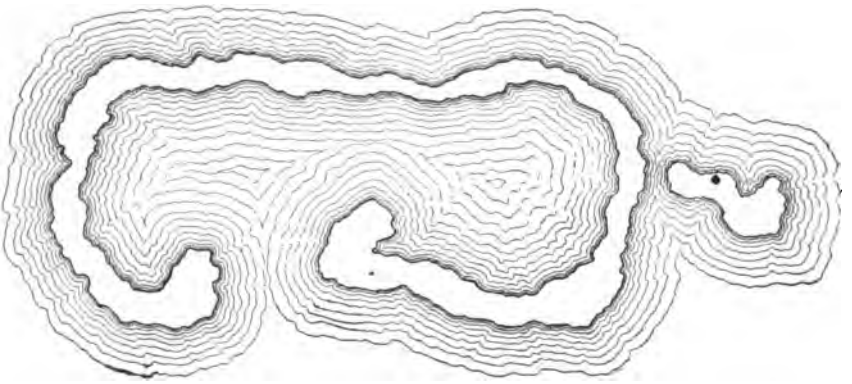
The following project of organizing a company to fish and can fish and lobsters at the island Atoll das Rocas, near Pernambuco, Brazil, was submitted to me by a well-known expert, the French-Brazilian engineer Maurice Le Tellier, of Rio de Janeiro.

The word "atoll" in Portuguese signifies a group of reefs forming a small bay. The Atoll das Rocas is a natural horseshoe, where fish are caught as in a labyrinth. The island may be reached from Pernambuco by boat in six hours, and is situated at 3° 54′ latitude south, 125 miles northeast from Cape San Roque and 84 miles from the island of San Fernando de Noronha. It is 14 miles in circumference and from one-fourth to one-half mile wide. At ebb tide the reefs are almost completely out of the water and at high tide they are on a level with the sea. The difference between high and low tide is about 9 feet. The bay is completely sheltered (as shown in the sketch) and the water within the inclosure is about 13 feet deep. During low tide the entrance of the bay is almost closed by a shoal. The coast in these latitudes abounds in fish, for which the Atoll das Rocas furnishes a favorable retreat, and at the same time constitutes a trap of gigantic proportions. This peculiar island is formed by an aggregation of a

very porous limestone with numberless holes and crevasses, forming a natural shelter for all fish and "creeping things."

The Atoll das Rocas abounds with fish, lobsters, and other crustaceans. The island is uninhabited and has but scant vegetation and no potable water. On an islet in the immediate neighborhood there is a Government light-house, and its four guardians with their families live in the vicinity, enjoying good health.

Rio de Janeiro imports about 2 tons of salted or dried fish per week, all of which could easily be supplied from the Atoll das Rocas, besides lobsters and other "frutti di mare," if fishing were properly organized at this unique island, which in fact constitutes the greatest natural fish reservoir and at the same time the most gigantic natural fish trap known to geography.



Atoll das Rocas, near Pernambuco, Brazil.

On his retiring from active service in 1899, the Brazilian admiral, Pedro Benjamin de Cerqueira Lima, obtained from the Brazilian Government the exclusive right to the fishing industry at this island for thirty years, and after his recent death his children inherited the monopoly. They are willing, or, rather, anxious, to dispose of it to a company with sufficient capital for a vigorous and rational exploitation.

Mr. Le Tellier calculates the possible annual export of fish from the Atoll das Rocas at more than 500 tons, and a net profit of about $60 per ton. He estimates the capital necessary for the investment as follows: Expenses of exploration and study of the region, $5,000; constructions on the island, $10,000; price of two steam launches with refrigerators, $30,000; machinery and implements for fishing and canning, $35,000; incidentals, $20,000; total, $100,000.

I am not an expert in this line, and give these figures for what they may be worth, but I can vouch for the character of my informant.

EUGENE SEEGER, *Consul-General.*

RIO DE JANEIRO, BRAZIL, *April 3, 1905.*

CANADIAN LAND RECEIPTS AND IMMIGRATION.

(*From United States Consul-General Holloway, Halifax, Nova Scotia.*)

The report of the department of the interior of Canada for the fiscal year ended June 30, 1904, shows great development in the western provinces and districts of Canada. Although there was a net decrease of $252,569 in the revenue derived from Dominion lands, compared with the previous year, the amount of revenue having been $1,695,592 in 1903 and $1,443,023 in 1904, the general business of the department was successful, the diminished revenue being accounted for by a decrease of over $300,000 in the amount received from the Northwest Territory and the sale of school lands. The amount of registration fees collected showed an increase from $81,404 to $109,234 in the two years, but the homestead entries decreased from 31,383 to 26,078. It is estimated that the homestead entries for 1904 represented 68,381 persons who settled in Manitoba, the Northwest Territories, and British Columbia.

The total number of immigrants arriving in Canada during the year ended June 30, 1904, was 130,330, of whom 50,374 were from the British Isles, as against 41,792 British in 1903. Upward of 20,000 young men came from Great Britain in order to engage in agriculture in Ontario, Manitoba, and the Northwest Territories. The number of arrivals from the continent of Europe was 34,785, as compared with 37,099 in the previous year, the falling off being attributed to a decrease in the number of arrivals from Russia, Hungary, and Scandinavia. The immigrants from the United States numbered 45,171, being slightly fewer than in the previous year.

W. R. Holloway, *Consul-General.*

Halifax, Nova Scotia, *March 24, 1905.*

REDUCED GOLD OUTPUT IN YUKON TERRITORY.

(*From United States Consul Smith, Victoria, British Columbia.*)

The steady reduction in the gold output and general business of the Yukon Territory has had a depressing influence on the trade between this port and that territory. The following figures are from the official report of the Dominion gold commissioner for the Yukon district of Canada:

The gold output for last year decreased $1,329,825 in value from that of the preceding year, the output for the year ended June 30, 1903, upon which royalty was paid, being $12,110,723, against $10,780,892 in 1904. The dryness of the season is given as one reason for the falling off. Generally it may be said that for mining in a small way Dawson and its vicinity is no longer a profitable location,

but large operations are successful and increasing. Nearly all the large companies in the Yukon are controlled by American capital.

The financial statement of the Canadian offices at Dawson show decreased receipts of $3,860 for quartz records; $1,868 for recording registered documents, certificates of partnership, and of work; $5,600 in payments in lieu of assessment work, and of $924 in Crown grants, while there was an increase of $311 in receipts from acreage of land covered by mineral claims.

The receipts by the government from the district for the past three years illustrate the boom of 1901–2, the great decrease in 1902–3, and the further falling off in 1903–4.

Receipts at the gold commissioner's office at Dawson, Yukon Territory, during the years ended June 30, 1902, 1903, and 1904.

For—	1902.	1903.	1904.
Free miners' certificates	$141,162	$80,135	$59,942
Placer grants	65,310	27,550	34,615
Renewals	75,720	78,135	55,675
Relocations	39,855	28,765	17,480
Registered documents, placer	22,076	18,460	15,718
Certificate of work, placer	10,476	11,332	11,252
Lieu of assessment, placer	18,250	14,200	4,500
Abstracts	1,419	633	294
Water grants	388	633	980
Amended applications	90	60	15
Court fees	3,075	38	.....
Quartz grants	5,890	5,250	1,360
Quartz:			
Registered documents	1,562	1,554	623
Certificate of partnership	158	225	123
Certificate of work	2,072	2,615	1,780
Lieu of assessment	3,100	6,900	1,300
Crown grants	244	1,311	387
Quartz abstract	.....	.....	8
Gusher royalty	.....	.....	140
Hydraulics	4,612	9,114	8,245
Inspection of work	240	217	32
Advance deposits	6,574	2,362	2,024
Government auction sale	9	.....	.....
Government reserve tract	95	.....	.....
Gold royalty	242,186	1	.....
Forfeited fees	6,811	.....	.....
Leonard claim	103	.....	.....
No. 1, Mint Gulch	.....	65	.....
Total	624,507	289,525	216,833

It is believed these figures will be still further reduced in 1905.

ABRAHAM E. SMITH, *Consul.*

VICTORIA, BRITISH COLUMBIA, *March 24, 1905.*

PROJECTED IRON INDUSTRY IN INDIA.

(*From United States Consul Fee, Bombay, India.*)

Jamsetjee N. Tata, a wealthy Parsee, known as "the Merchant Prince of Bombay," some years ago started a project to develop the manufacture of iron in India, utilizing the native Indian ores, coal, and limestone. Unfortunately for India, Mr. Tata died while his projected scheme was yet in the incipient stage. His sons, however,

have carried on the preliminary investigations and are now about to organize a syndicate with a cash capital of two crores of rupees ($6,480,000) for the purpose of manufacturing iron.

The necessity in the near future of renewing the rails on the long lines of road in India, supplying new projected lines and those under construction, and the growing demand for structural iron and steel, led Mr. Tata to believe that there would be a demand sufficiently vast to guarantee the promise of large profits to such iron manufacturers as would succeed in utilizing native labor and local raw products. He obtained on most favorable terms concessions from the Government for extensive tracts of ore, coal, and limestone lands in the central provinces and native States on the Bengal side of India.

The ore being of superior grade and the coal of inferior quality, much anxiety was apprehended at first as to the success of smelting the high-grade ore with a coal carrying low coking qualities. Reports of samples sent to Germany and England for experimentation were not favorable. Some three years ago Mr. Tata visited the United States and made a careful study of its iron works with a view to applying some of the modern methods, new inventions, processes, and machinery in use there which might be applicable for coking coal and to the smelting and manufacturing of iron in India. He secured the services of two American expert mining engineers who came out to India to make a thorough investigation of the situation and study the conditions, surroundings, and problems connected with the project. In company with the oldest son of the late Mr. Tata (Mr. D. J. Tata), they visited the various mining properties in the central provinces and native States and made full examinations. They satisfied themselves as to the richness and the abundance of the ore, the feasibility of coking the coal, and the availability of the limestone and other required raw materials. They carefully studied market conditions, prices, costs of freight and labor, water supply, furnace and mill machinery, Government good will, and all factors involved in the project, and have reported that an industry manufacturing a durable iron and steel, founded on the sources of supply indicated, can be established and successfully carried on in India with large profits to investors.

The project is to carry on a complete iron industry, consisting of mines, ovens, and mills for the finished product, as well as works for the utilization of the by-products. While the project has not been carried beyond the preliminary steps of investigation, the engineers are so well satisfied with the results and are so sanguine of success that they assert that they can produce a high quality of pig iron and lay it down at the port of Calcutta at less cost than can be done elsewhere in the world.

WM. THOS. FEE, *Consul.*

BOMBAY, INDIA, *March 30, 1905.*

PLACER GOLD MINING IN BRITISH COLUMBIA.

(From United States Consul Dudley, Vancouver, British Columbia.)

Elderly people will remember something of the great rush to the placer mines upon the Fraser River, in British Columbia, in 1858. In that year there had been a very light fall of snow and in consequence the summer season showed the lowest stage of water in the river that has been known. Most of the bars, which yielded some millions of gold then, have been submerged since, and the placer miner has not been able to work them.

During the past winter the snowfall is said to have been less than in 1858, and it is therefore expected that all the bars worked in the earlier year will be exposed to an even greater extent than they were in 1858. A very great rush of placer miners during the coming summer is confidently expected. The only work done upon the bars of the river during recent years has been by dredges, and most of these enterprises have paid well. With the bars above water they can be much more easily worked, and it now seems probable that more placer gold will be recovered from the bed of the Fraser during the coming summer than during all the years since 1858. There are still remaining in this province a few old-timers who worked their rockers in the valley of the Fraser in 1858, and it is expected that they will lead in the rush to the old fields that will have become new.

L. EDWIN DUDLEY, *Consul.*

VANCOUVER, BRITISH COLUMBIA, *April 14, 1905.*

NEW COINS OF MEXICO.

In transmitting the following, under date of April 8, 1905, United States Consul-General James Russell Parsons, jr., Mexico City, states that it is in substance a translation of a Presidential decree published in the Diario Oficial of April 5.

The gold coins of 10 and 5 pesos will be as follows: On the obverse the national coat of arms, the inscription, "Estados Unidos Mexicanos," ornamental scroll work, etc.; on the reverse the bust of Hidalgo, with inscriptions showing the denomination of the coin, the year in which it was struck, etc.

The silver peso will remain the same as at present, at any rate for the time being, but on the obverse it will display the inscription "Estados Unidos Mexicanos." The silver 50, 20, and 10 cent pieces will have an obverse the same as the gold coins. The reverse will display the denomination in large figures followed by the word "centavos," and will have a Phrygian cap with rays and a wreath of laurel and oak. Along the milling of the 50-cent piece the words "Independencia y Libertad" will be hollowed out. The milling of the 20 and 10 cent pieces will be only striated.

The nickel coins will have an obverse practically the same as the gold coins. The reverse will have an Arabic "five," the word "centavos," the date of coinage, all inclosed in a grecque imitating the Aztec calendar.

The bronze coins will have an obverse similar to the gold coins; reverse, the figure indicating the value of the coin forming with the letter C (centavos) a monogram, surrounded by a laurel wreath.

All the coins will have on the reverse the initial of the mint at which they were coined.

ECONOMIC EXPANSION CONGRESS.

In Daily Consular Reports for April 26, 1905, a note was printed relative to the congress to be held at Mons, Belgium, on September 24 next, to consider the economic expansion of the world. Under date of May 1 the Acting Secretary of State, Mr. Adee, transmits to the Secretary of Commerce and Labor the following translation of a paper covering the subjects which will be discussed at the congress. In his note of transmittal Mr. Adee says that the Belgian Government is particularly desirous that the United States should be officially represented at the congress.

SECTION I—EDUCATION.

I. Elementary education.—Should training in view of the economic expansion of a country begin in the elementary school?

1. Methods of developing will and daring in a child (careers to which the attention of the young should be drawn; technical education, libraries, lectures, etc.).
2. Methods of training in view of enterprise abroad; elementary school, technical school, etc. (foreign languages, industries, professions abroad and in the colonies, scholastic museums, museums of arts and manufactures).
3. Method of training to be undergone by teachers, (*a*) normal school; (*b*) while in office.

II. Secondary education.—Should training in view of economic expansion be carried on in secondary education, general, or special studies?

1. Methods (native and foreign languages, geography, history, natural sciences, professional studies, commerce, industry, agriculture; physical culture; training of teachers in normal schools and when on duty. Methods applied by different countries, especially in commercial lines).
2. Should the programme of classic Latin and Greek studies be revised? (Number of hours devoted to the study of ancient and modern languages, increase in scientific culture, etc.)
3. Languages to be taught in preference to others (compulsory, optional; methods, journeys abroad, teachers).
4. Is it necessary to create new special schools, more adapted to modern requirements, in addition to the industrial, commercial, agricultural, and technical institutions already in existence?

III. Universities, high schools.—1. What is the best system of organization for high schools? (*a*) For teachers in secondary schools, especially for history, geography, commerce, etc.; (*b*) for engineers; (*c*) for colonial officials, tradesmen, etc.

2. What is the best training for other high-class careers abroad?
3. What is the best method of organizing the study of foreign languages in high schools? (Special institutes, compulsory or optional studies; professors or specialists; native or foreign lecturers or teachers; journeys or visits to foreign countries; exchanges and correspondence with foreign universities; interpreters for legations and consulates, commercial and industrial companies, etc.)
4. Physical culture in high schools.
5. Support to be given to national graduates in foreign countries (missions, intelligence offices, scholarships).
6. Lectures given during the holidays, organized by universities for the benefit of foreigners; exchange of students and teachers.
7. Do popular lectures and public lessons contribute in developing the idea of expansion?

SECTION II.—INTERNATIONAL STATISTICS.

1. What are the best sources of information on the industrial and agricultural produce of a country, especially concerning raw material (coal, timber, iron, rubber, cotton, wool, ivory, coffee, corn)?

2. What is the best basis on which to estimate the wealth of the principal productive countries?

3. How far can international statistics on the metallic reserve and assets of banks be trusted as signs of the financial condition of a country?

4. What are the best means of arriving at international statistics of movable property? (Results achieved; improvements to be made.)

5. What are the methods adopted in different countries to obtain statistics of international commerce? What is the value of the results obtained?

6. Could a uniform method of classification be adopted in commercial statistics in order to render comparisons easier? (Each country keeping full control of its own statistics, how could imported and exported goods be sorted into a limited number of classes, which would be the same for all countries?)

7. What method is to be applied in ascertaining the value of imported and exported goods? Is it preferable to fix the value according to the declarations of importers or exporters or according to prices established annually by a special commission?

8. In international statistics what is the meaning of the words "nationalized goods?" (Distinction between national and nationalized goods.)

9. Should imported and exported goods be classified according to the countries of origin and final destination or according to the countries from which they are shipped and those to which they are directly consigned? (Rules to be adopted in the matter.)

10. What is the best method of recording the efficiency of workmen conformably to race, social condition, and organization of labor?

11. In commercial statistics are both quantity and value to be reckoned, or which of them?

SECTION III—POLITICAL ECONOMY AND CUSTOM TARIFFS.

1. What are the consequences of the coalitions of industrial, commercial, or financial interests known under the names of trusts, cartels, etc.? Should the law interfere to prevent and redress abuses resulting from such organizations? What are the steps to be taken?

2. Is the working of State monopolies, on industrial lines, consistent with general interests?

3. How could different countries protect the legitimate interests of their national industries and commerce without resorting to prohibitive precautions against foreign competition?

Would it be suitable to establish a system of comparative reciprocity between countries agreeing not to go beyond a certain limit in their custom tariffs?

System according to which certain countries would allow a more favorable treatment in exchange for a certain compensation granted to some of their principal exports.

4. What would the advantages be of custom unions or groupings of interests between countries prepared to adopt the same principles as a basis of their fiscal policy?

5. Are favors granted by a mother country to colonies consistent with the "most favored nation" clause stipulated by treaty, whatever be the nature of the colonial bond?

6. Is it possible to arrive at a uniform or, at least, concordant classification in the principal countries?

7. Steps to be taken in order to organize the settlement of international disputes in regard to custom tariffs.

SECTION IV—NAVIGATION.

1. What are the best ways of reaching an international agreement on shipping laws, collision, salvage, liabilities, charter parties, bills of lading, shipping and landing of goods, rules and regulations of harbors, abandonment, etc.?

2. How could uniform regulations be put in force concerning the measurement of the tonnage of seagoing ships?

3. Would it be useful to enforce international regulations as to the route to be followed by steamers on the seas where traffic is active? (*a*) In order to prevent collisions; (*b*) in order to protect fishing boats.

4. What are the lessons to be drawn from the origin and history of shipping companies, and how are they to be applied to the expansion of modern nations?

5. What must be done in view of insuring credit to seafaring industries? (Shipping and shipbuilding.)

6. Ought governments to encourage shipping and how? (Premiums, subsidies, etc.)

7. What are the best methods for recruiting and training officers, engineers, and seamen, as well as skilled hands useful in dockyards?

8. What are the advantages and disadvantages of a government navy? (Protection for mercantile marine; influences on the economic development of a country.)

9. What should governments do to encourage shipbuilding? (Premiums, subsidies, orders for the government, custom tariffs.)
10. Types of ships to be recommended.
11. What is the influence of shipping on commerce and colonization?
12. Improvements of modern navigation and their connection with the transformation of harbors, quays, wharves, docks, elevators, cranes, etc.

SECTION V—CIVILIZING NEW COUNTRIES.

1. What are the best methods for developing enterprise in new countries?
2. What are the best methods of ethnographic and sociologic observations to apply in a new country in order to acquire a scientific knowledge of the social condition, habits, and customs of the natives, and to raise them to a higher level of civilization?

Should this work be organized according to a generally adopted programme? In that case should scientific institutes be established, missions organized, special instructions issued to colonial agents, officials, missionaries, colonists, etc., and should a central bureau be established to gather information and intelligence?

3. What are the best methods of training for careers to be followed in new countries?
4. Is it desirable to found appropriate institutions, colonial schools, etc., for the training of candidates for posts in new countries? What should be the theoretical and practical programme in order to prepare candidates for civil service, judicial positions, etc., and also in order to impress upon them the methods they should apply in their intercourse with the natives, and to make them capable of bettering the moral and material condition of the population under their care? (Training of the teachers.)

Is it desirable to extend the institution of colonial museums and exhibitions, and which is the best way to make them efficient? (International exchanges, lectures, pamphlets.)

Is it desirable to send sets of samples to provincial towns, schools, etc., and how must they be combined?

6. What is the best system of organization for national or international exhibitions of produce of new countries or colonies in view of the expansion of the organizing country?
7. Suggestions in reference to the moral and material welfare of colonial officials; household, intellectual, and physical recreations; libraries; holidays with full pay; pensions; life insurance; benevolent funds for widows and orphans; sanatoria and convalescent homes?
8. Should extradition treaties made with the mother country be enforced in the colonies? In case of desertion, uprising, mutiny, what are the duties of neighboring colonies?

SECTION VI—MEANS AND MEDIUMS OF EXPANSION.

I. Private initiative.—1. Creation and organization of import and export business; settlements abroad. Services of engineers, clerks, etc., living in foreign countries; their efficiency.
2. Besides general studies, what kind of training should young men undergo if preparing for careers abroad?
3. Commercial travelers.
4. Issue of advertisements, samples, and directories in several languages.

5. Is the creation of industries and new enterprises abroad advantageous or detrimental to the expansion of the mother country?

II. Official support to private enterprise.—1. Subsidies in view of journeys and studies abroad, subsidies to commercial missions.

2. Official aid for distributing publications issued on private initiative.

3. Protection of and advice to emigrants.

4. Protection to national enterprise on foreign soil.

III. Direct action by governments and their officials.—1. Inquiries in foreign countries, study of the markets.

(*a*) What part should diplomatic and consular agents play in this line? Their training. Qualities required. Should technical advisers be added to legations? Permanent or temporary?

(*b*) What if special questions have to be examined?

(*c*) Consular tours, official missions.

(*d*) Instructions to be issued in order that consular reports should be practical and efficient.

2. Diffusing of intelligence obtained abroad. Publication of reports, etc.

(*a*) Imparting directly to interested parties, urgent information on confidential and private matters.

(*b*) Intelligence offices, commercial museums.

3. Intelligence sent to foreign countries, to impart information on national resources.

(*a*) Official museums of exportation, floating museums, permanent exhibitions.

(*b*) Publications on national industries to be distributed abroad. Official documents sent by governments to their diplomatic and consular agents.

LOMBARDY INSTITUTE PRIZES.

(*From United States Consul-General Guenther, Frankfort, Germany.*)

German papers report that the Lombardy Institute of Science, Literature, and Arts has distributed the scientific prizes for 1904, and has announced new themes for 1905. A gold medal for industries, which is only given once in three years, was awarded to Vermot & Reyna for wagon springs and wagon axles. The Cagnola prizes for essays with reference to the velocity of cathode rays, for a steering apparatus for airships, and for an investigation to prevent counterfeiting or forgeries had to remain undistributed, as well as various other prizes. An award was made to Doctor Ceni for a cure for the corn disease (pellagra.) For an essay on miasms and infection the noted physiologist, Negri, received the full prize and a gold medal. The Brambilla industrial prizes were strongly competed for, and three first and four second prizes were awarded. These Brambilla prizes are only given to further and encourage the industries of Lombardy. A prize was

also given for an essay on the division of the mental activity of the brain.

Among the themes for the next year are researches into the following subjects: Certain rock formations of the Apennines; modern psychiatry; phenomena of catalysis; modern knowledge of neurology; centers of vision of the higher vertebral animals.

Unawarded for a long time and therefore still on the list is the special prize by Commeno for the discoverer of hydrophobia poison. Dr. Henri de Rothschild has given two prizes to the Scientific Society for Nutrition Hygiene of Paris, $1,000 and $600, respectively, for the best treatises on the most rational nutrition of man. The essays, written in French, must be handed in before December 30, 1905. The award of the prizes will take place next year.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *March 15, 1905.*

TRADE OF GERA WITH THE UNITED STATES.

(From United States Consular Agent Neuer, Gera, Germany.)

GENERAL TRADE CONDITIONS IN GERA.

This district is one of the principal textile centers of Germany. Since the introduction of the woolen dress-goods industry great wealth has been amassed, and this city has grown to number 46,000 inhabitants, against 15,000 in 1864.

There were more operatives employed and a larger volume of sales in 1904 than in 1903. Complaints are made, however, that in many cases business has been unprofitable. Almost all reports agree that prices were depressed and but very few lines had a remunerative trade. The chief cause of this condition is overproduction, and though there were no heavy failures, some of the prominent firms are said to be in a precarious state. Large sales had to be effected at nearly the cost of production to keep the looms running and the working people employed. Under these circumstances it is particularly the small manufacturers and merchants who have had to struggle to make both ends meet and to hold out against very severe competition. Aside from oversupply, with a low standard of values of ready-made fabrics, the advance in the prices of raw materials proved an unfavorable factor in last year's trade. Especially wool, wood, ivory, and chemicals were and are still quoted at much higher prices than previously.

In consequence of the difficulties arising from prices and production, endeavors are made to regulate the standard of values and the cost and extent of production by the formation of unions and other joint efforts. Business was also seriously affected by the attempt of certain industries to sell directly to the consumer, as certain paper ware articles, petroleum, cereals, and agricultural machines are already sold.

Quite a number of purchase associations came into existence and interfered with established trade methods. Department stores, with their great variety of goods, and supply associations (Konsumvereine) also formed a permanent grievance of the retailers.

That the condition of trade is far from satisfactory is also made evident by overlong credits and delayed payments in many branches of business, particularly with small stores. Credits as long as nine months, in some cases from one to two years, are asked for and allowed. Moreover, retailers' increasing practice of settling their debts by long sight drafts instead of cash points to an unsound condition.

EXPORTS TO THE UNITED STATES.

Woolen dress goods form the principal article exported from Gera to the United States. Since the existence of our present tariff, and since the manufacture of woolen dress goods in the United States has developed in so remarkable a manner, the exports have continually decreased. How enormous the decline in the shipments of this line has been is shown by the fact that their value was $1,737,000 in 1895, against $566,000 in 1904. Many manufacturers have discontinued the export of dress goods to the United States, and were it not for the constant efforts of some of the largest mills in furnishing new and attractive designs the exports would have ceased altogether. Russia and Austria also take only in limited quantities of Gera products, partly on account of their high import duties, but chiefly on account of their industrial progress and cheaper labor.

Another article, the export of which has materially decreased, is accordeons. The value of the exports of accordeons to the United States was nearly $83,000 in 1883, against $15,000 in 1904. The general condition of this industry is becoming more unsatisfactory from year to year. The demand decreases and sales are only made at very low prices.

Only chinaware and leather gloves have so far held their own. Whether this will be the case in the future is more than questionable, inasmuch as American manufacturers are making such rapid strides in both articles as to almost shut out the foreign fabrics.

IMPORTS FROM THE UNITED STATES.

While exports from this district to the United States have very much decreased, the imports from the United States into this region are still smaller. No doubt many American manufacturers have greatly improved their methods of selling their fabrics in this country, but there are others who are still behind the times and under the impression that the sending abroad of circulars and price lists is sufficient to insure commercial extension.

Whatever market there may be in Germany for American goods can be won only by reliable branch houses or agents traveling in this country and thoroughly familiar with its language and mercantile usages. Articles of American manufacture which may be successfully introduced into this district by proper methods are writing and agricultural machines, canned fruits, stoves, rubber goods, hardware, cigarettes, leather shoes, and desks.

CHARLES NEUER, *Consular Agent.*

GERA, GERMANY, *February 28, 1905.*

EMIGRATION VIA BREMEN AND HAMBURG.

(From United States Consul Diederich, Bremen, Germany.)

The first three months of 1905 show a remarkable increase in the number of emigrants passing through Bremen on their way to the United States and other countries, as will be seen from the following statistics:

Emigration via Bremen, Germany, during the first quarters of 1904 and 1905.

Nationality and whither emigrating.	January.		February.		March.		Total for quarter.	
	1904.	1905.	1904.	1905.	1904.	1905.	1904.	1905.
TO THE UNITED STATES.								
Germans	673	519	651	747	1,545	1,229	2,869	2,495
Austrians	1,224	3,919	1,661	5,856	2,907	6,493	5,792	16,268
Hungarians	1,274	5,926	2,187	10,571	4,371	12,446	7,832	28,943
Russians	1,354	2,347	2,028	3,208	3,654	3,724	7,036	9,279
All other	145	95	140	173	266	368	551	636
Total	4,670	12,806	6,667	20,555	12,743	24,260	24,080	57,621
TO OTHER COUNTRIES.								
Great Britain	358	1,080	594	883	409	862	1,361	2,775
South America	97	218	83	398	88	580	268	1,196
Africa	23	15	7	5	5	4	35	24
All other	41	19	32	30	174	60	247	109
Total	519	1,282	716	1,316	676	1,506	1,911	4,104
To the United States	4,670	12,806	6,667	20,555	12,743	24,260	24,080	57,621
Grand total	5,189	14,088	7,383	21,871	13,419	25,766	25,991	61,725

The total emigration via Bremen during the quarter ended March 31, 1905, was 61,725, against 25,991 during the same quarter in 1904, an increase of 35,734 persons.

In a previous report I took occasion to call attention to the comparatively small number of Austrians and Hungarians leaving via Bremen in 1904. This was owing to the rate war between the Cunard and the Continental steamship lines, which compelled emigrants of these nationalities to leave via Fiume, but now that harmony reigns once more, most of them are preferring the German lines. At the same time it

will be noted that but few Russians are coming this way. During the three months ended March 31, 1905, there were only 9,279 Russians to pass through Bremen bound for the United States, while there were 16,268 Austrians and 28,943 Hungarians. At the consular medical inspection of the 57,621 emigrants 956 persons were rejected on account of disease, among whom were no less than 583 cases of trachoma, or 60.98 per cent of all rejected cases. I deeply deplore the fact that there seems to be no way of warning these poor people to have their eyes examined before they are booked for the steamer. In my opinion the majority of those rejected could and should have been told before they left their native country that under the immigration laws they could never hope to land in the United States.

The total emigration via Hamburg to the United States in March, 1905, amounted to 15,350 persons, of whom 907 were Germans, 9,768 Austro-Hungarians, 4,285 Russians, and 39 of various nationalities. The total emigration to the United States via Bremen and Hamburg in March, 1905, was 39,610 persons.

HENRY W. DIEDERICH, *Consul.*

BREMEN, GERMANY *April 19, 1905.*

WAGES OF MUNICIPAL EMPLOYEES IN FRANKFORT.

(From United States Consul-General Guenther, Frankfort, Germany.)

The schedule of wages of city employees, which first went into effect in 1897 and was last revised in 1900, has again been revised by the common council of the city of Frankfort, the changes to go into effect April 1, 1905. They are chiefly intended to assist workmen with large families by giving them extra allowances for rent. In all classes and grades on the wage schedule the permanent workman will receive additional pay ($1.20) for rent per month, provided he has three or four children; and if he has more than four children he will receive $2.40 per month. Wages of all grades are bettered, inasmuch as the former lowest grade of one year's duration is dispensed with, so that the increase now begins with those formerly of the second grade. Workmen of all grades enter upon a higher grade one year earlier than under the former schedule. The highest wages, those of the fifth grade, can be reached in thirteen years. In the lowest grade the wages commence with 81 cents per day and increase to 90 cents. Laborers who have to perform specially hard work will receive additional pay amounting to from 4.8 cents to 9.6 cents per day.

It has been agreed to allow permanent laborers who have been steadily employed for more than three years vacations not to exceed four days a year with continued pay; if employed more than six years, vacations are not to exceed six days. These provisions will also apply

to the personnel of the electric works and the street-car lines, with the exception of conductors and drivers, for whom two special schedules are fixed. In the future a street-car conductor will receive for the first year 83 cents per day, increasing through nine grades from $22.62 to $32.14 per month. The provisions for additional pay for rent apply also to the employees of the street-car lines.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *April 4, 1905.*

DROUGHT IN SPAIN.

(From United States Consul-General Ridgely, Barcelona, Spain.)

The present outlook for the Spanish farmer may be described as gloomy. The prolonged drought throughout the country, following a poor wheat harvest last year, is contemplated with considerable alarm. The Spanish peasants as a class are poor, living from hand to mouth. Their wages have not been raised in proportion to the steady increase in the cost of living, and consequently their position has become gradually worse, so that they will find it difficult to face a continuance of unfavorable crops.

In Andalusia, where the effects of the drought first made themselves felt, the want of rain prevented the sowing of the crops and deprived thousands of people of their sole livelihood. Farther north, in the provinces of Castile, which embrace the principal wheat-raising districts of Spain, rain is urgently needed during the present month of April. In Aragon the drought has been severely felt; here, too, in many parts it was found impossible to sow, owing to the dryness of the soil, and the olives have also suffered from the lack of rain. In Valencia the last orange crop was entirely lost through the early frosts, but this region being well irrigated the effects of the drought have not been appreciable. In Catalonia, where many crops are raised, the injury done so far has not been very serious, but it is generally recognized that a continuance of the drought during April would have grave consequences. The vines have not suffered as yet, the dew having so far supplied the moisture required. The almonds and olives are promising, the mild winter and absence of strong winds having proved beneficial to them.

Although the alarm that the continued dry weather is creating may not be altogether warranted by the harm done, it must be borne in mind that the wage-earning classes, who form the major part of the population, are not in a position to withstand a further advance in the cost of the necessities of life which must follow a loss of crops.

The purchasing power of the silver peseta has diminished within recent years, and as wages have not been increased in the same ratio the expenditure on anything but food has been reduced to a minimum, and hence the present general depression in trade in this country. Manufacturers, merchants, shopkeepers, in short, all tradesmen, are complaining bitterly of the hard times. There is relatively little money in circulation.

Of the many important cotton mills in Catalonia some are worked by water power, and of these several have already been compelled to suspend operations because of the drought. The present prospects for rain are good, and if realized the crops of this important section may yet be saved.

BENJ. H. RIDGELY, *Consul-General.*

BARCELONA, SPAIN, *April 7, 1905.*

MACHINE FOR CLEANING BOILERS.

(From United States Consul Marshal Halstead, Birmingham, England.)

Mr. J. Morrison, of Glasgow, describes in the Engineering Supplement of the London Times, of March 15, 1905, a machine for keeping the smoke tubes of marine and stationary boilers clear of soot by turning the retarders or spirals ordinarily inserted into tubes to break up the gases on their way through. Instead of the customary sweeping out of the tubes, say, at the end of a trip of a steamer, or weekly in stationary engines, and being satisfied with this occasional cleaning, though it is known that within twelve hours the tubes will be as dirty as before, the operator works the mechanism referred to by a handle outside the smoke box a half minute every watch. Rotating the retarders disturbs the soot and the draft smoke (the smoke-box doors being always shut), blows the soot toward the funnel, thus clearing the tubes. As five-sixths of the heating surface of a marine boiler is tube surface, clean tubes naturally give great economy in coal consumption. The device has been used for some months on the steamship *Pirate*, and is now being fitted into a number of Glasgow steamers. Mr. Morrison believes it to be the only mechanism that will work within the smoke box of a steamer or locomotive where the temperature (melting zinc, or 750° F.) prevents lubrication and where soot and dust gather.

MARSHAL HALSTEAD, *Consul.*

BIRMINGHAM, ENGLAND, *March 16, 1905.*

CANADIAN RAILWAY ACTIVITY.

(From United States Consul-General Holloway, Halifax, Nova Scotia.)

The increased activity in Dominion interest in railroads continues. The New Brunswick legislature to-day unanimously passed a resolution urging the Dominion government to take over the New Brunswick Southern Railway. The line runs between St. John and St. Stephen, passing through St. George. It is known locally as "Russell Sage's road," the Wall street millionaire being principally interested. There has been a strong protest because of the poor winter service. The resolution asks that the federal government take over the road and operate it as a part of the Intercolonial Railway, connecting with the government road at the St. John end and at the other end with the Washington County road in Maine, giving a through line to Boston.

Among the important measures concerning railroads passed by the provisional legislature which adjourned yesterday was an act consolidating the Halifax and Southwestern Railway by the acquisition of the Halifax and Yarmouth and the Middleton and Victoria Beach railways, and the act empowering the government to grant a subsidy not exceeding $5,000 a mile to the Cape Breton Railway Company to complete its line from St. Peters to Louisburg. This company now has a first-class line in operation from the Strait of Canso to St. Peters, and the building of the additional section will give a through line to Louisburg, with access to three ports, St. Peters, Port Morien, and Louisburg, open the whole year.

W. R. HOLLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *April 10, 1905.*

CANAL AND SHIP RAILWAY FROM GEORGIAN BAY TO TORONTO.

(From United States Consul-General Holloway, Halifax, Nova Scotia.)

A deputation consisting of Mr. J. D. Allan, president of the Toronto Board of Trade, Col. O. I. Davidson, and Mr. R. C. Steele, of Toronto, and H. C. Spalding, of New York, are at Ottawa for the purpose of obtaining a charter for the Canadian Canal Corporation, which proposes to build a ship canal from Georgian Bay to Toronto.

Mr. Spalding, the promoter of the company, who is an eminent engineer, having superintended the construction of large works, particularly in Russia, has prepared a statement regarding the engineering details of the scheme:

The waterways will consist of two divisions. The first division will be 16 miles long, and will extend from Matchedash Bay to Lake Couchiching, a northern extension of Lake Simcoe. It will include a

portage about five-sixths of a mile in length, whereon by means of a marine railway, ships of the largest class can be raised or lowered by water power through a lift of 131 feet, the difference in level between the bay and the lake. Thence the route would be through these two lakes for a distance of about 25 miles to the Holland River, which flows into the southern end of Lake Simcoe. By deepening and straightening this river for 5 miles we come to Oak Ridges, which is the divide between Lake Simcoe and Lake Ontario. The entire length of the southern division, including canal and river, will be 31 miles, making the total length of the canal 47 miles. Only 12 miles of the whole will have to be cut in solid earth. The southern division will have two portages to make the descent from Lake Simcoe to Lake Ontario, each about 233 feet lift and each about 1 mile long. These will be worked by water power. There will be nine tracks under each carriage on each of the three short portages upon this route, but there will be two sets of nine each, making eighteen tracks, for the support of the two carriages upon the single portage of the Nottawasaga route.

Mr. Spalding holds a number of patents for a sort of marine railway which he proposes to build on the southern division of the canal.

W. R. HOLLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *March 22, 1905.*

BUSINESS OPPORTUNITIES IN FOREIGN COUNTRIES.

(*From United States Consul-General Guenther, Frankfort, Germany.*)

Argentina.—The Dirección General de Contabilidad, in Buenos Aires, will award contracts for the building of two iron bridges.

Austria-Hungary.—At the following places electric works are projected: Debant, near Lienz (Tyrol), cost, $105,000; Bad Ischl, cost, $52,000; Zizkow, cost, $201,000.

The municipality of Saaz, Bohemia, by Mr. Riesesser, will build an electric railway from Waidbruck to Grödnerthal.

A funicular railway up the Schmittenhöhe is to be built by Herr von Meinong, of Innsbruck.

Electrical works are to be established at Feldbach, Styria.

Belgium.—The Société Nationale des Chemins de Fer Vicinaux, in Brussels, will receive proposals for furnishing six hydraulic cranes.

Bolivia.—The Government of Bolivia will build a railroad from Villeta to the Magdalena River.

Brazil.—The municipality of Nictheroy will receive proposals for constructing a large hotel and casino along the Irarahy beach.

The tramways of Porto Alegre are to have electric traction.

Chile.—The engineer, Jorge J. Heinsler, Santiago, has received the concession to construct a railroad 75 miles in length from Yate, Chile, to Valle Nuevo, Argentina; estimated cost, $3,000,000.

Cuba.—New quays with modern mechanical equipment are to be constructed in the harbor of Habana.

Egypt.—The Egyptian Government contemplates the installation of electric traction on the Matarieh Railroad, and it is reported will construct a railroad from Cairo to the Matarieh oasis.

Germany.—The municipality of Frankfort is now considering plans for the construction of a medical academy and hospital, which is estimated to cost $882,000, of which about two-thirds will be contributed by the city, the balance from endowment funds bequeathed or donated by private individuals. In connection with the academy and hospital there will be erected various buildings—a scientific institute, a clinic for children, a clinic for women, separate clinics for the treatment of diseases of the skin, eyes, throat, etc., and a dental clinic.

The town of Hanau, near Frankfort, projects the building of electric tramways. Several of its lines are to be extended to smaller towns in the vicinity.

Montenegro.—The Government is about to improve the harbor of Antivari and to construct a railroad thence to the Lake of Scutari.

Netherlands.—The municipality of Vlaardingen will build tramways.

A steam railroad is projected from Tiel to Culemborg. Apply for particulars to Mr. T. Schotel, of Rotterdam.

The municipality of Dokkum is going to have an iron bridge built.

The municipality of Nijmwegen will award contracts for supplying the city with cast-iron water and gas pipes.

Spain.—Electric traction is to be used on the tramway line Murcia al Palmar.

The municipality of Baeza will award a contract for the installation of electric lighting.

A narrow-gauge railroad is to be built from Malaga to Coin, which is to be stocked with four locomotives and forty-eight freight and passenger cars. For particulars apply to the Direccion General de Obras Publicas in Madrid.

Switzerland.—The Governments of Switzerland and the Grand Duchy of Baden have agreed to grant a concession to the cable works of Velten and Guillaume, Mühlheim, near Cologne, and to the Swiss Electrical Company of Berne to erect works at Laufenburg to utilize the Falls of the Rhine for producing electric energy. The works are to be built on a gigantic scale and are intended to furnish 50,000 horsepower.

Mr. Otto Birken and a syndicate at Zurich have obtained the concession for building an electric cable road up the Mont Bre.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *April 17, 1905.*

AMERICAN TRADE IN RUSSIA.

(Extract from the annual report for 1903–4 of United States Consul Clarence Rice Slocum, Warsaw, Russia.)

AMERICAN TRADE AGENCIES.

The most satisfactory results in American trade in this district were attained through the medium of a number of new agencies established which, with few exceptions, report good trade and better prospects. The exceptions are agencies carrying goods somewhat of the nature of luxuries, the sales of which have been affected by the war.

The new agencies established during 1903 include one each for patent spokeshaves, pipe-threading machines, typewriters, seeding machines, including drills; broadcast sowers, and disk harrows; incubators, roller copying machines, addressing machines, bone-cutting machines, pea harvesters, hand hoes for beets, cream-separators, one-horse weeding machines, disk plows, automobiles, pianos and pianolas, and two for imitation jewelry. Other American goods are on the market, but are either, like American agricultural implements, so well established in favor and so excellently represented as to need no comment in this report, or are introduced through the German commission houses. Of the new agencies established those for seeding machines, bone pulverizers, and pea harvesters have been unqualified successes, and that for hand hoes for beets is meeting good results.

AMERICAN AGRICULTURAL IMPLEMENTS.

The American manufacturer has now practically monopolized the trade for light agricultural machines and implements, and it has been largely effected through his willingness to adapt his machines to the local requirements, and to his excellent choice of agents. For example, one excellent representative of American agricultural implements recently at his own expense issued a catalogue for distribution solely among the peasants, simple in language, local in expression, and admirably adapted to their needs. This step was taken in view of the fact that to-day the peasant is the dealer's best customer. He pays cash, and, with the constant parceling of estates, he forms a class rapidly increasing in numbers, and with requirements which the American manufacturer would do well to watch. The manufacture of agricultural machines to meet the needs of the small farmer is a promising field—thus, 5-row hand drills would meet a requirement and be readily sold where larger drills would be too expensive and too large for the peasant's needs.

Most cream separators in use here are of Danish and Swedish make, but were the American machines less expensive they could successfully compete in this market, where sales have of late increased to a marked degree.

CREDITS.

The credit question here, while perhaps a difficult one for the average American manufacturer, is largely solved by the appointment of good agents; yet the customary long credit demanded, especially in the introduction of new goods, is a deterrent to many. A firm thinking seriously of entering this market would do well to first investigate thoroughly the terms on which business in its particular line is done and how its goods compare in quality and price with others already on the market. Then if the result warrants a belief in success here, it should obtain the most available agent and sustain him in every way, even to the extent of modifying established customs. The experience of the agricultural implement manufacturer and his evident success proves that the benefit to be derived is well worth the expenditure of time and money.

TRAVELING SALESMEN.

A larger number of representatives of American houses visited Warsaw during the past traveling season, but as usual the agricultural implement representatives predominated. German and Austrian salesmen are everywhere, and one can not enter a hotel without seeing one or more of them.

Representatives of American houses traveling solely for selling purposes, and not with the purpose of locating agencies, should at least know German, though I have seen salesmen sent out from the United States with no knowledge of any foreign language whatever, relying entirely upon paid interpreters at each city. Such interpreters are seldom to be relied upon.

The representative speaking only his native tongue sometimes forms undesirable acquaintances on the trains, solely for the purpose of speaking English, which may result disastrously to his employer. To cite a case in point, two American traveling men, during the past season, met on the train an entertaining gentleman who spoke English perfectly and was thereby of much assistance in travel to my compatriots, and, moreover, took a great interest in American commercial affairs. Learning their destination to be his home town, Warsaw, this man was of still greater assistance, and the upshot was that at least one of the Americans was prepared to turn over his Russian business to a swindler, practically upon the man's own representations as to his financial standing and general commercial worth, though he gave as reference the name of a certain count, one of two brothers who, through loss of fortune, etc., has become rather lax, and has lent himself to various schemes which do not bear close scrutiny, while the other brother is thoroughly reputable in every way and has an excellent reputation. The traveling man obtained a report on

Count ———, which was upon the brother in good standing and was thoroughly satisfactory in every way. Corrected information was given my compatriot before any actual financial damage had been done.

CLARENCE RICE SLOCUM, *Consul.*

WARSAW, RUSSIA, *January 6, 1905.*

OPPORTUNITIES FOR AMERICAN GOODS IN ONTARIO.

United States Consul Harry P. Dill, of Port Hope, in his annual report for 1904, refers as follows to the opportunities for increased American trade in Ontario:

I am and have long been of the opinion that large quantities of American goods might be sold in this country were manufacturers and dealers to send traveling salesmen with samples to drum up trade. So far as my observation goes, the merchants generally buy from samples, and see only what the agent has to show them. They rarely visit the market in person, and would scarcely think of ordering from an American firm without an opportunity of examining the goods.

In this section many Americans are regular summer visitors, and the merchants keep on hand most kinds of American goods that are in common use. To specify one article, a certain brand of soap, which previously had been sold only in small cakes by druggists, is now a staple article with most merchants. The boot and shoe dealers carry fairly good lines of American-made boots and shoes, though many have a special line as exclusive agents. An American and a Canadian make of ladies' boots were shown me, which were supposed to be as near alike in style and quality as they could be, but the American boot would be taken first every time. Yet, after paying the 25 per cent Canadian duty, the American boot costs the dealer 19 cents less than the Canadian make. The salesman comes with samples and sells the goods. In a recent issue of the Daily Consular Reports a colleague mentions the fact that fancy biscuits made in the United States have "practically captured the market" in his locality, and he adds: "It was through the visit of a personal representative of the manufacturers."

The articles herein enumerated are but a few of those sold here or which could be introduced by energy on the part of Americans looking for a foreign market.

CANADIAN CHEESE MANUFACTURE.

Under date of April 1, 1905, United States Consul Henry S. Culver, London, Ontario, transmits the following article from the Farmers' Advocate, of that city, of March 30:

Few of us appreciate what the dairy inspector has done to improve Canada's position in the British cheese market. We have been wont to attribute our success mainly to cooperation, overlooking the fact that mere factory manufacture, without a general system of instruction, would have failed to secure that uniform excellence necessary to the building up of a national reputation, wherein lies the only hope of assuring profitable employment for the man who milks the cow. Uniformity has been the call trumpeted across the Atlantic ever since we began to figure in British dairy markets—uniformity in quality, color, salting, style, package; in fact, uniformity all around. High average merit will not avail without it. When we reflect that the British distributor handles wholesale quantities of produce from all parts of the world, and that there must be but small chance of the make of any factory being placed regularly before the same set of consumers, it is plain that to create and hold in the consumer's mind the favorable prejudice, recognized as such an important factor in modern trade, we must do everything possible to guarantee that all goods labeled Canadian shall be right up to the mark in quality, and uniform, so that the purchaser may depend always on finding beneath our brand just what he expects. Fool him a few times and he concludes the country's make is unreliable. Thus, in a cosmopolitan market like that of Britain, the blame for inferior butter or cheese falls not directly upon the producer, but upon the trade of the country or province whence the goods purport to come. Recognizing this fact, the enterprising dairymen's associations of Ontario years ago adopted the system of appointing instructors in the province, and this year the number will be considerably increased. The explanation of the number is the good that they have been able to accomplish, and this in turn is due to the selection of competent men, and the charging of a fee to the factories desiring their visits. Were the instruction given altogether gratis, it might not be so highly esteemed or so fruitful in results. Until this year the charge has been uniform, but it is now proposed in the Western Association to put it on a sliding scale, the larger factories paying a slightly larger fee. It is hoped by this means to introduce instruction into quarters where it is much needed, but would probably not be asked for at the higher rate.

During the past two years special efforts have been put forth for the benefit of makers, with a special view to the adoption of uniform methods of manufacture. To this end the instructors were required to attend a special dairy school class for the purpose. Methods were thoroughly discussed, point by point, until a common practice was agreed upon in every step down to the last detail, and the instructors have since been inculcating these into the minds of the makers they have visited. The result has been a general improvement in manufacture and a gratifying approach to uniformity of product. It has been customary for the instructor to spend the major part of the day at the factory, watching the day's operations, in which he assists, offer-

ing pointers and making milk and curd tests. If the test showed it necessary, a drive to a few farms would follow.

It may be noted that there have been no prosecutions by the western instructors for two years, the aim being to improve conditions by persuasion and education. The result of this conciliatory policy is an improved attitude toward the instructor, the patron's former suspicion that he was a sort of spy giving way to the understanding that he is a valuable aid to the maker, and perchance to the patron himself.

During the ensuing year the association contemplates rather a new line of work. Having improved things pretty radically in the factories, it is considered time to do a little more systematic work among the patrons by having the instructor spend his time in house-to-house visits among them. In cream-gathering districts it may be feasible for him to accompany the driver. While the latter is weighing and sampling the cream, time would be afforded to note the conditions of the dairy and yard and for some helpful conversation. In cheese sections a rig would have to be secured, and the farms visited in company with the factoryman or some one else locally acquainted. It would seem a good plan also to hold evening meetings sometimes in the less busy seasons. By this visitation the instructors would be brought into practical touch with farm conditions, and much good information could be diffused, not only from their own store of knowledge, but through the opportunity to pick up and convey practical pointers from one farmer to another.

To hold our own in the British cheese market and capture a larger share of the butter trade, we must continually improve both in production and manufacture. The example is properly expected from the factorymen, as there is no use having first-class milk spoiled by a poor maker. The factorymen, however, are now for the most part a pretty competent and progressive class. It remains for the farmer to do his part by greater care and religious observance of the all-important requisite—cleanliness.

With faithful effort all round there is no limit to the development of the dairy business in Canada; but we must work harmoniously, and especially this season, with the contemplated programme of instruction, it is desirable that the best relations should exist among instructors, patrons, and makers.

WHALE FISHING IN BRAZILIAN WATERS.

(From United States Consul-General Seeger, Rio de Janeiro, Brazil.)

Little is known abroad of the abundance of fine fish and lobsters in the numerous bays of northern Brazil, or of the whale hunting near Caravellas and Bahia. The fishing industry, like nearly all the industries of Brazil in which foreigners have not taken the lead, is medieval in its methods and unsatisfactory in its results, but it could be made very important and very lucrative, and I desire to draw to it the attention of American enterprise.

Whales seem to be animated in spring by that indefinable desire to wander, which the Germans call "wanderlust." Regularly every year,

at the beginning of spring (which in this part of the world is August and September), numerous shoals of cetaceans leave the southern waters and swim northward. Formerly they passed close to the entrance of the Bay of Rio de Janeiro. Of late years they have changed their route, giving Rio de Janeiro a wide berth. Near the twenty-second degree of southern latitude they turn westward toward the coast of Bahia, so rich in the fish and animalculæ they seek. The reefy waters between the Abrolhos Islands and the port of Caravellas (between 19° and 18° southern latitude) are their feeding grounds. While they are feasting on the almost inexhaustible supply of fish the natives lie in wait for them. Fortunately for the whales (which belong to the species of cachalot or sperm whale and are neither very swift nor very courageous) their human enemies are centuries behind the times, lacking modern weapons and equipments.

From the Abrolhos the whales, on their journey to the equator, keep close to the shore until they reach the Bay of Bahia, where, in the vicinity of the island of Itaparica, within sight of the city of Bahia, the conditions are very much like those of the Abrolhos. The fishermen keep a sharp lookout for the passing whales, and at a signal prepare an organized attack, exactly in the manner their ancestors did three hundred years ago. Two clumsy, flat-bottomed whaleboats, manned by six or eight oarsmen accompanied by half a dozen small canoes, with four colored fishermen in each, take strategical positions. The men never think of venturing out in the open sea with their primitive craft, but scheme to surround their victims and drive them toward the shoals inside the bay. After they have succeeded in isolating a whale, the whaleboats are rowed up to it, one on each side, and the "baleadores" (harpooners) drive their heavy, old-fashioned spears into the neck of the animal. The whale tries to escape, but the boats keep up a hot pursuit, and the "baleadores" continue spearing their victim whenever they have a chance. This struggle lasts for many hours until the whale, exhausted through loss of blood, gives up the fight. Then comes the moment for driving the harpoon home, which is delayed until the agony of death has set in for fear the harmless monster might try to defend itself or madly rush out into the open ocean and escape. With their antiquated methods the hunters can kill but few of the whales within their reach. But, strange to say, they hardly ever lose one after they have attacked it, and accidents to the men are of very rare occurrence.

When the troubles of the whale have ended the real troubles of the hunters begin—the transportation of the dead whale (generally from 75 to 100 feet long) to the island. It often takes these fishermen (Brazilian half-breeds or negroes) several days to pull the carcass ashore. Its landing, of course, causes the greatest tumult among the insular population gathered at the shore and eager to help. When the mon-

ster is securely on shore, twenty or thirty negroes, armed with heavy cutlasses, throw themselves on the carcass and cut it to pieces. The choice portions, in chunks of 50 to 80 pounds, are taken to the "saladeiros," or salting places, where they are prepared for the market in Bahia, whose negro population furnishes ready customers for the meat in spite of its very nauseating smell. The blubber and other portions, without being properly flensed, are carried to the "whale factory," where the oil is tried out. The rest of the krang, nearly half the carcass, as well as the skeleton and the flesh, after the oil is pressed out, are left to decay. Neither the skin, out of which a high-grade leather might be manufactured, nor the blood, the baleen, the fins, nor the bones are utilized by the ignorant whale hunters of Bahia. The presses used for obtaining the oil are remnants of the colonial period. The oil is neither purified nor clarified, but is sold in its crude state to Bahia dealers.[a]

The catch in the neighborhood of Itaparica is now about thirty or forty whales annually. I am informed on reliable authority that with rational methods and modern equipments this catch could easily be quadrupled, and with proper treatment of the fat and oil and the by-products extraordinary profits could be derived. The cost of establishing and equipping an adequate plant is estimated at $100,000.

A little island and the establishments thereon, about 1½ miles from Itaparica, are for sale. The place is well situated for fishing purposes, and is said to have an excellent climate, luxurious vegetation, and good sanitary conditions. There seems to be no reason why whale fishing at Caravellas or Bahia should be less lucrative than at Newfoundland, where the companies engaged in the industry are said to earn now, since the adoption of rational methods, from 40 to 50 per cent on their invested capital. Persons interested might well investigate the chances in Brazil. They may rely on my assistance.

EUGENE SEEGER, *Consul-General.*

RIO DE JANEIRO, BRAZIL, *April 3, 1905.*

LANCASHIRE AND AMERICAN COTTON INDUSTRIES.

Under date of March 13, 1905, United States Consul Joseph I. Brittain, Kehl, Germany, transmits the following article from the London Daily Mail of March 11:

A great rebound was naturally to be anticipated from the violent depression caused by the manipulations of the American cotton speculators and the fears of a short crop. A rise in the price of an article of

[a] Six photographic views accompanied Consul-General Seeger's report, which are on file in the Bureau of Statistics. The first two represent the establishments on the small island near Itaparica, mentioned by Mr. Seeger as being for sale.

universal consumption such as cotton tends to bring more land under cotton cultivation, and thus to augment future crops, so that, as in the case of sugar, scarcity will not as a rule last for long. That is, of course, leaving out of account such possibilities as the organization of the planters to restrict the quantity produced, which have in the case of the United States to be taken into serious account. The fact that the estimate of the present crop greatly exceeds all calculations, and is nearer 13,000,000 bales than the 11,000,000 at which it was at one time placed, has naturally led to a heavy fall in the price. With the fall in price has come a great rush of orders to fill the depleted warehouses of the merchants, and as Lancashire has the skilled labor, machinery, and organization, her manufacturers have secured the lion's share of the trade. Her profits have been suddenly increased, compensating her for heavy losses during the period when cotton was daily rising in price.

A further influence which has operated in favor of the British manufacturer has been the strike at the great Fall River mills in the United States, which disabled temporarily one of this country's most formidable competitors. It is also possible that in the Far East the Japanese industry has been to some extent disorganized by the concentration of the nation's attention upon the war, thus leaving the China market open to British trade. In India the recovery from the famine has given the people more to spend, and they appear to be spending it in buying English cottons. Yet it should never be forgotten by Lancashire that the open market in India exists simply and solely by reason of the British rule of that country, for were the peoples of India left to their own free choice they would, without any doubt, impose a tariff, and a tariff without the countervailing excise which now exists, and which is in the highest degree unpopular with our fellow-subjects. Even in China there might to-day have been no open market but for the prowess of Japan and the support which her long series of victories has given to British policy.

Upon the horizon there is still a cloud—a small cloud, it is true, but one which may be the cause of trouble if precautions against its bursting are not taken in time. This is the steady growth of the consumption of cotton in the United States. From a yearly average of 856,000,000 pounds in 1881–1885, the demand of the American manufacturer rose to 1,884,000,000 pounds in 1901–2, while the American crop has not expanded in proportion. If the cotton planters can be induced to restrict their output, or if this demand at home for their product continues to increase, there may be difficulties for Lancashire hereafter. The best course would be by all possible means to augment the area under the cotton plant within the British Empire.

TAXATION IN FRANKFORT.

(From United States Consul-General Guenther, Frankfort, Germany.)

Inquiries concerning taxation are quite frequently made at this consulate-general by Americans desiring to take up a temporary residence of a few years in this city. The rate of taxation does not vary much from that of other places in the Empire. Generally speaking,

the amount to be paid for taxes by a resident will be about 10 per cent of his yearly income. Foreigners, however, pay no "State income tax" on that part of their income which is derived from investments in real estate or actual business located or transacted outside of Germany. The resident must give a written statement as to his means and income. The authorities are vigilant and vigorous. Incorrect returns or evasions meet with heavy penalties; if the statement is doubted the authorities raise the amount, forcing interested parties to protest.

The following statement is based on the estimated income on 425,000 marks ($101,046) at 4 per cent per annum, 17,000 marks ($4,046). As some of the taxes are calculated upon the amount of house rent paid by the resident, I have placed house rent at 3,000 marks ($714) per year. A flat with six or seven rooms and modern conveniences, in the better residence quarter of Frankfort, will cost that much on an average. Persons keeping dogs or horses pay special taxes on them, and also for insuring their servants against sickness. If servants become ill and are not insured their employers must defray hospital charges for a limited period.

Taxes in Frankfort, Germany, on a yearly income of 17,000 marks ($4,046), the owner of which occupies a dwelling for which he pays 3,000 marks ($714) rent per annum.

Item.	Amount of taxes.	
	Marks.	*Dollars.*
Income (payable to the State)	510	121.38
Complementary (to the State)	210	49.98
Municipal (to the city)	535.50	127.45
House rent (to the city)	120	28.56
Church (to the congregation)	51	12.14
Water, also for use of one bathroom (to the city)	126	29.99
Garbage (to the city)	15	3.57
Sewerage (to the city)	30	7.14
Chimney-sweeping tax	12	2.85
Invalid and old age insurance tax for two servants	25	5.95
Tax in lieu of furnishing quarters and food to soldiers (estimated) [a]	10	2.38
Total	1,644.50	391.39

[a] This tax varies from year to year.

The school tax for the higher class public schools ranges from 100 to 150 marks ($23.80 to $35.70) per child yearly. The scholars furnish their school utensils, pens, pencils, copy and text-books, atlases, drawing implements, etc.

In view of the foregoing one is reminded of the oft quoted expression of Frankfort's renowned son, the poet Goethe, "Ihr Amerikaner habt es besser" (You Americans are better off).

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *March 7, 1905.*

SANDPAPER IN FRANCE.

(From United States Consul-General Skinner, Marseille, France.)

Sandpapers are classed in France, for customs purposes, as "emery applied upon paper and cloths, agglomerated in grindstones, or in any other form whatever." It follows that the statistics below refer in a restricted sense to sand papers and cloths:

Imports of sandpapers in 1904.

Whence imported.	Imported into Marseille.	Imports into France.
	Pounds.	*Pounds.*
Great Britain	165	.....
Germany	1,408	.....
Switzerland	464	.....
United States	11,196	.....
Algeria	108	.....
Total	13,341	707,023

Exports of sandpapers in 1904.

Whither exported.	From Marseille.	From France.
	Pounds.	*Pounds.*
Italy	1,468	.....
Turkey	1,384	.....
Algeria	18,007	.....
Tunis	16,485	.....
French Indo-China	19,749	.....
Other countries	3,555	.....
Total	60,643	691,589

Upon entering France these articles are dutiable at the rate of $9.65 per 220 pounds under the general tariff and $5.79 per 220 pounds under the special tariff. American imports are dutiable at the maximum rate.

There is a more or less important demand for this class of merchandise throughout the country. The character of the Marseille industries is such that operations in sandpapers here are perhaps less important than in the metal-working regions. The important houses are located at Paris. I am given to understand that Navarre & Cie., of 133–135 boulevard Serurier, Paris (19), are the principal domestic manufacturers. This firm quotes the following prices to the trade: For quantities of 10,000 sheets, $4.53 per 1,000 sheets; for quantities of 20,000 sheets, $4.34 per 1,000 sheets, free of charges at Marseille. These quotations cover ordinary sandpaper, and supply an approximate idea of the general range of prices.

The following are other houses engaged in this business:

Paris.—J. Delaunay, 29 rue St. Ambroise; Louis Joliot, 7 rue Grenier St. Lazare; A. Le Couturier, 63 rue du Château d'Eau; J.

Maréchal, 118 boulevard Richard Lenoir; Denis Poulot, 50 avenue Philippe Auguste.

Marseille.—Jh. Rousseau, 52 rue du Berceau; M. Reisacher, 44 avenue du Prado; L. Guillat, Ecully, Rhône.

ROBERT P. SKINNER, *Consul-General.*

MARSEILLE, FRANCE, *March 11, 1905.*

HUMANE SLAUGHTERING OF CATTLE.

(From United States Consul Marshal Halstead, Birmingham, England.)

"Ice and Cold Storage" prints a picture of a humane cattle-slaughtering pistol which has recently been introduced at a Putney, London, slaughterhouse, and comments on various appliances of a humane character which have been developed for the rapid and painless dispatch of animals used for food. It says the most familiar of such appliances, now in use in many abattoirs in Europe, is the Brunneau mask, which has, however, the inconvenience of not being readily attached for use. A number of inventions have since been made which have the same idea, viz, a hollow tube fixed in the center of a leather hood to cover the eyes of the animal, but while the Brunneau mask has a tube inclosing a bolt which can be readily driven into the skull, the more modern instruments are gun barrels which discharge a shot into the skull and cause instantaneous stupefaction. As the shot frequently lodges in the vertebral column and otherwise destroys the head for practical use it is not thoroughly satisfactory.

The device in use at Putney is like an ordinary single-barrel pistol of large caliber, but instead of discharging a shot it drives out with great force a bolt, which has occupied the full length of the pistol barrel, and this, entering the skull of an animal, produces instantaneous stupefaction, without lodging a shot in the brainpan to lessen the sale value of the head. When the animal falls the operator pulls out the bolt, which has pierced to a depth of about 3 inches, and returns it to the pistol, the gas from the explosion escaping both by the chamber opened to eject the cartridge before putting in a fresh one and by a channel provided in the bolt.

The advantages the inventor claims for the pistol are: (1) After the shot the animal falls to the ground dead; (2) all danger of stray shots to people in the slaughterhouse is absolutely avoided; (3) the discharging of the pistol takes place without any objectionable noise; (4) only one hand is required for using the pistol, and this is regarded as of great importance in killing pigs, as the left hand is free for fixing the animal's head; (5) the easy and rapid working of the pistol makes it capable of being used in slaughterhouses of any size; (6) the apparatus never gets hot, even after hundreds of shots have been fired in

quick succession; (7) it may be cleaned and oiled rapidly and easily, and the cartridges are protected against dampness, which has to be reckoned with in slaughterhouses.

MARSHAL HALSTEAD, *Consul.*

BIRMINGHAM, ENGLAND, *March 24, 1905.*

CHINESE LIQUOR CONSUMPTION.

(From United States Consul Anderson, Amoy, China.)

There are reasons to believe that American liquor interests, especially the wine producers of California, are not paying the attention to the trade of China which it deserves. Generally speaking, the imports of wine, beer, porter, and spirits into China are rapidly increasing, although the past year was not a very favorable one in some respects. It is also true, apparently, that American trade in this line is increasing, but Americans do not have the share they ought to have.

Value of imports of beer, porter, wines, and liquors into Amoy, China, in 1901, 1902, 1903, and 1904.

Kind.	1901.	1902.	1903.	1904.
Foreign:				
Beer and porter	$10,212	$10,026	.....	$10,463
Spirits	2,982	3,424	.....	6,223
Wine	12,779	10,425	.....	7,907
Total	25,973	23,875	$31,950	24,593
Native wines (samshu)	30,743	65,972	31,040	31,048

The unusual amount of native wines imported in 1902 was probably due to the destruction of stocks in the great fire which visited Amoy that season.

Generally speaking, the coast cities use foreign spirituous, vinous, and malt products in about the proportions indicated. American beer is popular, but some German and considerable Danish beer are imported. Whiskies are largely of English and Scotch origin. The wines represent almost every nation that produces wine, but the European brands very largely predominate. I believe that Americans can develop a good trade here in whiskies, can increase their sales of beer greatly, and that they can especially better their trade in wines. The consumers include not only the large and increasing foreign population, but the wealthier classes of Chinese who are taking to foreign beverages. When a Chinese official gives a dinner nowadays his table will show an array of foreign wines which speaks volumes with respect to future trade. The Chinese people, as a whole, are becoming more and more prosperous every year, and their ability

to buy such products is constantly increasing. One indication of this is apparent in their trade in native wines. I see no reason why foreign goods should not replace such native products to an indefinite extent. California wines particularly ought to have the cream of the market here, and I believe that a little pushing of the trade by personal representation or otherwise would have immediate and gratifying results. The success due to efforts of agents for American firms so far indicates the great extent of the field yet untouched. The demand for wines is for sherry, claret, hock, champagnes, and port, in the order named.

GEORGE E. ANDERSON, *Consul.*

AMOY, CHINA, *March 9, 1905.*

BUSINESS OPPORTUNITIES ABROAD.

(*From United States Consul-General Guenther, Frankfort, Germany.*)

Austria.—The city of Nachod, Bohemia, plans the erection of electric lighting works.

British India.—The government council of Pondicherry has voted $984,600 for harbor improvements, waterworks, railroads, and other public works.

British South Africa.—According to the British board of trade there will be a growing demand for steam rollers in Cape Colony, as the divisional councils show great energy in macadamizing the public roads. The city of Port Elizabeth, Cape Colony, contemplates the enlargement of its electric plant.

China.—The building of a tramway line in Nankin is projected.

France.—The prefecture of the Seine, Paris, will award contracts involving expenditures of $3,897,000 for the construction of city tramway lines.

German Africa.—German business men interested in banks, iron works, and shipping lines are forming a company with $4,000,000 capital to construct a railroad 100 miles in length in the Kamerun colony. The German Federal Government is to guarantee 3 per cent dividend on the new company's stock.

Germany.—A German national automobile exposition is projected, to be held at Frankfort the coming autumn.

Marburg, a university town, is to have electric works.

Belgian capitalists are planning the erection of an artificial silk factory in the Prussian province of Posen.

Reichelsheim, in the Wetterau district, Grand Duchy of Hesse, is to have an electric central station to supply power to various towns and industrial works in the district.

Italy.—The Società Veneta per Construzione ed Esercizio de Ferrovie Secondarie Italiane will have a railroad built from Thiene to Asiago.

The Italian ministry of public works has granted a concession to construct a tramway line from Rome to Civita-Castellana.

Netherlands.—The ministry for the colonies at The Hague will receive proposals for furnishing the material for 123 freight cars.

A railroad line from Terborg to Emmerich is projected by the municipality of Terborg.

The municipality of Delfzijl is about to construct a railroad from that town to Zuidbrock.

The municipality of Hilversum will extend the gas works of that town.

The municipality of Barendrecht plans the installation of waterworks.

The Westlandsche Stoomtramway Maatschappij, of Amsterdam, will construct additional tramway lines.

The municipality of Druten projects the installation of electric works; that of Etten, near Breda, wants to introduce acetylene lighting, and that of Delft is about to extend its gas works.

Portugal.—The administration of the Portugal State railways will construct a line from Villa Real to the Varges Brook, which is to form part of the Regua-Chevas Railroad. It has also been authorized to build an iron railroad bridge over the Almargem River.

Servia.—The Kingdom of Servia has just negotiated a new loan, of which $7,000,000 is to be expended for railroad improvements and extensions.

Spain.—The city of Madrid will receive proposals for disinfecting materials to be supplied for the next five years.

Uruguay.—European press accounts say that the Government of Uruguay will negotiate a loan of $3,000,000 to be expended for harbor works, bridge building, and other internal improvements. American contractors and bridge builders should give this matter attention.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *March 30, 1905.*

INCANDESCENT GAS LIGHTING.[a]

(From United States Consul Marshal Halstead, Birmingham, England.)

The streets of Birmingham are not electrically lighted, but in recent years the development of the incandescent mantle and the clever devices adopted by the city for the prevention of vibration and consequent destruction of mantles exposed to the elements has resulted in

[a] This is supplementary to a report printed in Monthly Consular Reports for April 1905, p. 139, "Incandescent gas burners and electricity."

a system of gas lighting much more satisfactory than those accustomed to electric lighting and knowing only the old style of gas lighting would imagine.

At a recent meeting in London of the Society of Architects, Mr. Tucker, a member of the council of the society and late chief surveyor of the war office, read a paper on the subject of illumination which the Gas World reports at some length. He asserted that, not withstanding the considerable improvement made in mantles of late years, to see the best incandescent gas lighting it is necessary to go to Berlin, where mantles are used without any coating to protect them in transit, the burning off of which causes deterioration and loss of incandescence. Mantles, he said, deteriorate by the action of the oxygen in the atmosphere, and therefore should not be kept in stock for any length of time. Mr. Tucker held that the incandescent burner, particularizing the style known here as the C type, is five times as efficient as the argand gas burner and six times as efficient as the ordinary gas burner. He said that incandescent gas lighting improves natural ventilation, the heat causing a circulation which materially assists in the removal of vitiated air, where proper provision has been made for its escape, and that it undoubtedly assists in preventing down draft in churches, large halls, etc., and he told of the experiments which were carried out in the museum and art gallery in Birmingham in 1902 by Prof. Percy F. Frankland, of the Birmingham University, who stated in his report that the experiments clearly showed the following results:

(*a*) In the absence of any artificial illumination, there was a slight increase in the percentage of carbonic acid in the air during the course of the day. (*b*) With the electric arc lamp illumination, the increase in the percentage of carbonic acid gas was distinctly more marked. (*c*) With the incandescent gas illumination, on the other hand, there was a distinct diminution in the percentage of carbonic acid in the air.

Continuing, Mr. Tucker said:

It is stated that the explanation of this diminution is not far to seek, it being obviously due to the more efficient ventilation of the gallery, caused by the greater draft of heated air through the ventilating shafts placed above the incandescent gas burners. That the percentage of carbonic acid actually diminishes during the use of the incandescent gas burners proves that the products of combustion, from which damage to the pictures might be apprehended, are completely carried off by the ventilation, which is so much promoted by the gas burners.

In the opinion of Professor Frankland, the incandescent gas installation in the art gallery is to be preferred to electric arc lamps; and although these lamps do not give rise to sulphur compounds, they do generate ozone and oxides of nitrogen, which are calculated to act injuriously on pictures. In order that this advantage may accrue from the incandescent gas illumination, it is, of course, necessary that proper ventilation should be provided over the gas burners to prevent the circulation of the products of combustion.

In the discussion which followed the reading of this paper an electrician, naturally in opposition, said he did not think very much of the experiments, for the incandescent gas lamps in the Birmingham art gallery had funnels above them to carry away the fumes, and considering that five gas burners consume as much oxygen as ten human beings, he thought it was very easily seen that ventilation was needed when gas lamps were used. A Mr. Valence then said that he was surprised by the statement that in a room lighted by electricity there would be more carbonic acid than in one lighted by gas, and personally he preferred electric light for dwellings, though with ventilating shafts for gas burners there might be more perfect ventilation.

Mr. Tucker had referred incidentally to the question of lighting in fog, giving his experience on certain roads during a recent fog visitation. On one road lighted by electric arcs placed pretty close together he found that he could not see one lamp from another, and pedestrians ran considerable risks, but when he reached a road in which incandescent gas lamps were employed he found things much better, for he could see two lamps at a time, In the discussion a number of persons present said they had often noticed the want of penetration of electric light in fog, and one thought electric light in the time of fog perfectly useless. A Mr. Manning said that when he visited Paris lately he had contrasted the lighting by electricity in one avenue there with that by gas in another, and that there was far more light from the incandescent gas lamps than from the electric lamps.

Touching on the fog question, I may say that there is an American acetylene lamp on the English market in which the flames from two burners impinging give a very perfect white light, and the only criticism of this lamp is that some users have claimed that in fog this perfect light is not so effective as that from certain English and Continental lamps, in which there is not so perfect combustion and the light is of a yellowish color; but the American maker can easily fix a device to his lamp which will enable the user to have a yellow light when needed for fog.

MARSHAL HALSTEAD, *Consul.*

BIRMINGHAM, ENGLAND, *April 9, 1905.*

BEEF PRICES IN CANADA.

Under date of April 20, 1905, United States Consul James H. Worman, Three Rivers, Quebec, transmits the following article from the Montreal Gazette of same date, relative to the high prices for beef which now prevail in that city. Consul Worman adds that these prices are likely to continue for some time:

Beef has taken an immediate advance in Montreal and householders will have to pay more for their Easter supplies than has been the case for twenty-five years.

Up to this week it has been possible to secure prime cuts of beef at 15 cents a pound, though in the uptown stores the price averaged 18 cents a pound, but for the balance of this week and until some indefinite period in the future prime beef will retail at from 15 to 20 and 25 cents a pound. These figures are not exceptional, but are average figures obtained from the leading butchers of Montreal.

It appears that there has been a scarcity of stall-fed cattle during the winter, and on this account the high prices will prevail until the grass-fed cattle come in, which will probably be during July. Another explanation is that the English market has been making heavy demands upon the Canadian farmers, and sales for export have been unusually heavy, also accounting for the scarcity of beef for the home market.

Beef has been selling on the Montreal market for 6 to 7 cents a pound, live weight, which averages about 11½ cents a pound dressed. This beef will retail from 12½ to 15 cents a pound in the north end of the city, while St. Catherine street merchants and those who deal with the high-class trade will retail from 15 to 18 cents a pound. In one instance a dealer in Bonsecours market will retail Easter beef from 18 to 22 cents a pound, while extra choice cuts will bring 25 cents.

George Patterson, of Patterson Brothers, Pine avenue, said that the present prices of beef were the highest he had experienced for twenty-five years. He considered that the high prices were here for all time, and did not see any chance of a drop later on in the season. He had paid as high as 7 cents for beef on the hoof and had seen sales of 6 and 6½ cents for beef in carload lots.

McDuff Lamb, University street, told the Gazette that the high prices were only temporary and that his customers would not find the cost of beef advanced to any extent, the prevailing average being 18 cents a pound. He said that it had not been their custom to fluctuate with the market, and he considered that the present raise was due to stiff market conditions. However, prices for veal, lamb, and mutton were high. The high price of veal was due to the high market for butter and cheese, farmers preferring to use the milk rather than feed the calves. Spring lamb was selling from $1.50 to $3 for hind quarters, fore quarters selling at $1 to $2.50. Mutton was scarce, because the farmers had sold freely in the autumn on the demands of the export market.

Mr. N. Bourassa, of J. B. & N. Bourassa, of Bonsecours market, said that the present prices were the highest in his experience, and added that he expected that they would continue, with but little chance of a drop later. He laid the blame for the sudden advance at the door of the exporter, asserting that the finest cattle were shipped from Canada for the British market, while the local supply was offered only second choice at a high price.

"Easter meat will sell at 18 to 22 cents a pound, while choice roasts will bring 25 cents," said Mr. Bourassa. "These prices are unusual, but I think that they will continue for some time. It is the first time in my experience of twenty-five years that such high prices have been asked, and I do not think that low prices will ever follow for beef."

RECENT LEGISLATION IN BRITISH COLUMBIA.

(From United States Consul Smith, Victoria, British Columbia.)

The annual session of the legislative assembly of British Columbia came to an end on Saturday night, April 8, 1905, when the lieutenant-governor formally assented to the bills passed, which thus became the laws of the province.

Anti-Asiatic act.—The anti-Asiatic immigration act, which has been three times disallowed and annulled by the Dominion government, was again unanimously enacted. The bill is No. 67, and the prohibitory clause reads as follows: "The immigration into British Columbia of any person who, when asked to do so by an officer, fails to write out at dictation, in the characters of some language of Europe, and sign in the presence of the officer, a passage of fifty words in length, in a European language directed by the officer, is hereby prohibited."

Bills Nos. 81 and 85, along similar lines, prohibiting the employment of Asiatics in coal mines or other public works, were also again passed unanimously, although they have several times been disallowed by the Dominion government.

Court wigs.—Heretofore in the provinces of Canada judges and attorneys have worn wigs during sessions of court. Bill No. 44 decrees that hereafter wigs are not to be worn in courts of this province.

Mining.—Bill No. 10 provides that miners shall not be detained underground for a longer period than eight hours from "bank to bank." The effect of this is to reduce the working hours to six and one-half or seven hours at most, and the enactment of the bill was vigorously opposed by mine owners.

Commercial travelers.—Bill No. 11 fixes the license fee for each commercial traveler, agent, or other person taking or soliciting orders for liquor or cigars, or both, to be imported into the province at $100 for every six months; and for soliciting orders for goods, wares, merchandise, or other effects of any kind whatsoever, other than liquors or cigars, to be imported into the province to fill such orders, at $50 for every six months.

Game law.—Bill No. 28, amending the "game protection act," allows nonresidents to hunt birds for one week on paying a license of $5, and to hunt game for the season by paying a fee of $50. Heavy penalties are provided for shooting during the closed season. Provincial game and forest wardens are to be appointed to enforce the act.

ABRAHAM E. SMITH, *Consul.*

VICTORIA, BRITISH COLUMBIA, *April 12, 1905.*

JAPANESE AGRICULTURAL UNDERTAKINGS IN TEXAS.

(From United States Consul Fisher, Tamsui, Formosa.)

I inclose three clippings translated from Japanese newspapers on the subject of Mr. Gada's agricultural undertaking in Texas, Nos. 1 and 2 being from the Osaka Mai-Nichi Shimbun, Osaka, Japan, issues of February 19 and 25, and No. 3 from the Taiwan Nichi Nichi Shimpo, Taihoku, Formosa, issue of March 5, 1905. The Mr. Gada referred to is a person possessing considerable wealth. He has resided in Formosa since 1896, and is auditor of the Taiwan Bank. His commercial and industrial interests in this island, as well as in Japan, are quite extensive. If his agricultural undertaking in Texas is carried to completion, it will no doubt lead to a large immigration of Japanese into that region.

CLIPPING NO. 1.

Mr. Kinzaburo Gada, who is engaging in an agricultural enterprise on the coast of Formosa, visited the United States last fall, and recognizing the advantages offered for farming in the State of Texas, will collect about 1,000 farmers within a short period, and as a first undertaking an area of 4,000 cho bu (approximately 9,800 acres) will be cultivated in paddy fields on a large scale.

CLIPPING NO. 2.

As mentioned in our recent issue, Mr. Gada is intending colonization in Texas on a large scale, and according to later information he will leave for Formosa by to-day's mail steamer from Kobé, and, after making an inspection of the affairs of the sugar plantation at Taito will return to Japan about April, after which the commencement of the enterprise in Texas will be undertaken.

CLIPPING NO. 3.—INTERVIEW WITH MR. GADA.

In an interview with the editor of this paper [Taiwan Nichi Nichi Shimpo, Taihoku, Formosa], Mr. Gada has made the following statement:

"Farming is the only enterprise that it seems can be profitably undertaken in America by the Japanese. In the manufacturing industries the Americans are using large capital and extensive machinery and are making every effort to reduce the cost of production. The progress in the economical use of machinery is very conspicuous, but in agriculture they are unable to employ these methods, and therefore do not question the comparatively high prices for vegetables and grains they consume. The reason seems to be their absolute devotion to the manufacturing industries, which leaves them no time to consider other enterprises. It is therefore in agriculture that the Japanese in America are most likely to meet with success.

"The total area of the uncultivated regions in Texas, where I have undertaken the farming scheme, is larger than Japan. Until a few

years ago it was used for grazing, but it has gradually come to be considered a district for cultivation, and the prospects for its future are very promising. The agricultural productions can be sent to the market at New York in two days, to Chicago in one and one-half days, and to San Francisco in four days. The area I intend to cultivate consists of about 20,000 cho bu (49,000 acres), and the price of the land is but 5 yen ($2.50) per tan (0.245 acre). This region having been grazing land up to the present time there will be little difficulty or expense in preparing the ground for cultivation, and the soil is very rich, so that there will be no necessity for using fertilizers for at least ten years. Before returning to Japan I made arrangements with the railway company owning the land to purchase it at any time.

"The total number of Japanese in Hawaii is about 60,000, all of whom consume rice exported from Japan. The price of Japanese rice in Hawaii is about 32 yen ($16) per koku (4.96 bushels). The price is enhanced from the original cost of 14 yen ($7) or 15 yen ($7.50) per koku (4.96 bushels) by the addition of about 8 yen ($4) import duty, 5 yen ($2.50) freight, and the commissions and profits of the importer and retail dealer. Besides rice the other articles of daily diet are so expensive that a Japanese earning a monthly wage of 60 yen ($30) has scarcely anything left from his income after the cost of living is deducted; but in America, in contrast, by engaging in farming he could supply the larger part of his daily diet, such as vegetables and rice, from his own productions, so that the cost of the other articles of living should not exceed 30 sen (15 cents) a day; thus, from a wage of 30 yen ($15) per month a laborer should be able to save 20 yen ($10.) In classes of work where nimbleness of the fingers is necessary the Japanese are more skillful than the Americans. In gathering grapes in the vineyards they are able to earn 6 yen ($3) per day. It is therefore quite evident that there is an advantage in employing Japanese for cultivation on a large scale.

"My scheme is to invest 700,000, or 800,000 yen ($350,000 or $400,000), during the first year in the purchase of land and other expenses. It is estimated that at the end of four years a profit of 2,000,000 yen ($1,000,000) will be realized.

"Of the different agricultural pursuits, that of growing vegetables is the most profitable. As the cultivation of 40 cho bu (98 acres) requires but two men and three horses, the profits and the expenses can be easily estimated. No procedure is required to secure a market, as the 'trust' makes contracts with the farmers and advances money for their produce before the time for marketing. The prices are fixed on the basis of the price at which the produce is supplied to the consumers, which allows proportionate profits to both the 'trust' and the farmers; and as the 'trust' would not attempt to make a reduction, this method of marketing will be convenient for Japanese who engage in agriculture in America."

FRED D. FISHER, *Consul.*

TAMSUI, FORMOSA, *March 6, 1905.*

POPULATION OF RUSSIA.

Under date of April 14, 1905, United States Consul Samuel Smith, of Moscow, Russia, transmits the following information, gleaned from the last census, relative to nationalities and ethnographic distribution of the population of Russia.

Ethnographic classification of the population of Russia.

Nationality or tribe.	Number.	Nationality or tribe.	Number.
Russians	83,933,567	Kabardines and Abhases	170,672
Poles	7,931,307	Tshetshenses and others	819,576
Bulgarians	172,726	Tates and Tadshiks	445,453
Bohemians	50,385	Kurds and Ossets	271,665
Germans	1,790,489	Kirgeeses and Kalssaks	4,084,139
Lithuanians	1,210,510	Tatars	3,737,627
Shmudes	448,022	Bashkirs and Tegtjares	1,488,136
Lettonians	1,435,987	Chuvashes	843,755
Esthonians	1,002,738	Turks	208,822
Moldavians and Roumanians	1,121,669	Kumiks and Nogais	147,488
Greeks	186,925	Kara-Kirgeeses and others	802,807
Armenians	1,173,086	Ousbeks	726,534
Jews	5,063,156	Sartes	968,655
Finns and Korels	351,169	Turkoman	281,357
Votiaks	420,970	Yakuts	227,384
Sirjans and Permjaks	258,309	Calmucks and Buriats	469,311
Mordvates	1,023,841	Tunguses	66,270
Tcheremisses	375,489	Other nationalities	632,667
Georgians, Imeretians, and Mingrels	1,336,448	Total	125,640,021

The Russians comprise two-thirds of the population of the Empire, but in some outlying sections are in the minority. In the Caucasus there are only 34 per cent of Russians; among the tribes of Armenians, Tatars, Georgians, Imeretians, and Mingrels there are 50 per cent; in Central Asia only 8.9 per cent, and the smallest number are found in the governments on the Vistula (Poland), 6.7 per cent.

United States Consul-General Guenther, of Frankfort, Germany, reporting on the same subject, under date of April 13, says that while the census under consideration is the latest, it is eight years old. He gives the following additional information:

Of the Russians 30.6 per cent of the males and 9.3 per cent of the females can read and write. The number of adherents to the principal religious denominations is as follows: Orthodox, 87,123,604; old faith and dissenters from orthodoxy, 2,204,596; Roman Catholics, 11,506,809; Protestants, 3,762,756; Armenian Gregorians, 1,179,266; Mohammedans, 13,906,972.

The population is made up of the following classes, in about the following proportions: Peasants, 96,916,644; burghers 13,586,392; hereditary noblemen, 1,220,169; personal noblemen and officials, 630,119; ecclesiastics, 588,497; hereditary and personal honorary citizens, 342,927; merchants, 281,179, and foreigners, 605,500.

MINING CONCESSIONS IN CHINA.

(*From United States Consul-General Ragsdale Tientsin, China.*)

I submit herewith what is believed to be a complete schedule of mining concessions granted by the Chinese Government.

In the three eastern provinces: To Russia, Karin, Chiapiku, Ningkuta and Hunchun.

In Shantung: To Germany, all places along the Kiaochau Railway and almost the whole province; capital, $60,000,000 Mexican ($28,620,000).[a]

In Szechuan: To France, Kuanhsien, Kienwei, Weiyuen, Chikiang, Hochau, and Chingking; capital, $10,000,000 Mexican ($4,770,000).

In Shansi: To England, Menghsien, Pingting, Luan, and Tsechau; capital, 1,000,000 taels ($732,000).[b]

In Honan: To England, Huaiching and its neighborhood; capital, 10,000,000 taels ($7,320,000).

In Anhui: To Japan, Hsuancheng; capital, 2,500,000 taels ($1,830,000).

In Chehkiang: To Italy, Yenchau, Wenchau, and Chuchau; capital, 5,000,000 taels ($3,660,000).

In Fukien: To France, Kienning, Tingchau, and Shaon; capital, 7,400,000 taels ($5,416,800).

In Kuichau: To France; other particulars unknown.

In Chihli: To Americans, Lowry and Jameson, gold mining claim.

JAMES W. RAGSDALE, *Consul-General.*

TIENTSIN, CHINA, *March 22, 1905.*

NEW GUINEA LAND ADMINISTRATION.

(*From United States Consul Goding, Newcastle, New South Wales.*)

BRITISH NEW GUINEA.

The total area of land alienated by the Crown is 22,099 acres, which includes 2,523 acres granted for religious purposes. The total purchase money received is $14,863, the average price paid per acre being 75 cents, exclusive of the land granted for religious purposes. All the land has been sold subject to conditions of improvement, and none is being disposed of at present, pending the passing of the Papua bill by Parliament.

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[a] The Mexican dollar was valued on April 1, 1905, at 47.7 cents.

[b] The taels have been assumed to be haikwan or customs taels, and reduced in the Bureau of Statistics at their United States Treasury value on April 1, 1905, 73.2 cents.

GERMAN NEW GUINEA.

The sale price of land is generally about 48 cents per acre. The governor is empowered to sell up to 1,240 acres, and larger areas can be sold only by the colonial department of the foreign office. The amount that can be purchased is not limited. The expenses of the acquisition of unowned land, either by agreement with the natives or by taking possession, devolve on the purchaser; also the cost of surveying and setting boundaries and entering property in the register of land, and of administrative visits of inspection or local visits considered necessary by the land registrar. Well-founded claims by other persons are allowed, for no guarantee is given by the land department of freedom from claims by third parties. The purchaser must, unless prevented by unforeseen circumstances, begin to work the land within two years, and in default must transfer it back to the land department. The purchaser is further obliged to expend $3.64 per 2½ acres on at least three-fourths of the land within fifteen years. This may take the form of improvements or the preparation of land for forest or pasturage, especially for the rearing of cattle for breeding, and of the erection of buildings not likely to decrease in value. Unless the purchaser shows, at the latest in the first half of the sixteenth year, that he has fulfilled the conditions mentioned, or has been hindered from their fulfillment by accidents, he will be obliged to retransfer the land to the department.

F. W. GODING, *Consul.*

NEWCASTLE, NEW SOUTH WALES, *March 11, 1905.*

PEAT AS A PAPER-MAKING MATERIAL.

(From United States Consul Fleming, Edinburgh, Scotland.)

About two years ago in Scotland and Ireland there was a revival of interest in the utilization of peat as a material for making paper, book board, etc. The failure of many previous undertakings, large and small, did not deter capitalists from investing in new plants, two of which have been operating for some time. The principal product is wrapping paper. It can not be said that the industry is as yet much beyond the experimental stage, nor that any very important results are promised.

The difficulties that beset the earlier experimenters have not been wholly overcome and are still serious drawbacks to the economical use of peat. They are: (1) The troublesome and expensive process of getting rid of dirt, requiring a large amount of soda in the boiling vats; (2) lack of sufficient fiber in peat, necessitating the addition of other material, such as old gunny bags, ropes, hemp, etc., to make paper

that will serve the ordinary purposes of grocers, drygoods merchants, and other tradesmen, my information being that little of the peat paper now put on the market is more than 75 per cent peat; and (3) the apparent impossibility of bleaching the peat pulp to a satisfactory extent, which means practically that only brown paper can be produced.

In view of these obstacles and of the low cost of manufacturing paper from straw and wood pulp, German straw paper selling in this market at $34 per ton of 2,240 pounds, it is not a cause for surprise that the progress of the peat-paper industry has been slow. One merit claimed for peat paper may lead to its extensive use for certain purposes—the manufacturers say that it will not harbor moths.

RUFUS FLEMING, *Consul.*

EDINBURGH, SCOTLAND, *April 13, 1905.*

NEW OPAL FIELD IN NEW SOUTH WALES.

(From United States Consul Goding, Newcastle, New South Wales.)

The occurrence of opal in Wallangulla has been known for the last ten or twelve years, or even longer, and from time to time pieces of the precious stone have been picked up on the surface. About two years ago a syndicate was formed, systematic prospecting was commenced, and opal was found in situ. It is impossible to give anything like an exact estimate of the value of the gems already won, but there have been no large or sensational finds. The deposits are found in an outlier of the Upper Cretaceous (desert sandstone) formation, and their modes of occurrence are identical with those at White Cliffs.

The Upper Cretaceous rocks comprise an upper bed of conglomerate about 30 feet thick, which has in places been denuded, resulting in the formation of a low ridge, and a lower bed of white powdery siliceous rock. The conglomerate is composed of a number of quartz pebbles set in a vitreous-looking ground mass. The lower bed contains the precious stones, and is exactly similar in all respects to the opal-bearing rock at White Cliffs. The precious stone is scattered in an irregular manner through the rock and frequently occurs in a nodular form. A few good specimens of the gem, particularly of that variety which exhibits a play of colors in the form of a fine mosaic and has been described as the harlequin opal, and also one specimen of the rare black opal, have been found. The majority of the stones have a deeper tint than those from White Cliffs, and in this respect more closely resemble the Queensland opal.

The field has yet to be developed, and the prospects are certainly encouraging. About thirty men are at work, but the majority are

not earning wages, and are at considerable disadvantage on account of the isolated position and the expense and difficulty of obtaining supplies. There is a large area of country between Walgett and the Queensland border covered by Upper Cretaceous rocks which may prove opal bearing in places. All the opal hitherto won at Wallangulla has been obtained from slight depths, which do not in any instance exceed 20 feet.

F. W. GODING, *Consul.*

NEWCASTLE, NEW SOUTH WALES, *March 13, 1905.*

NEW FUEL FROM PETROLEUM.

(From United States Consul Gifford, Basel, Switzerland.)

In the course of experiments with a view to the manufacture of soap from petroleum the Actiengesellschaft vormals S. Börlin & Co., of Binningen, near Basel, Switzerland, has discovered a new combustible which seems to possess quite extraordinary qualities. The substance, composed of four parts of petroleum and one part of a material the nature of which is not disclosed, is formed into briquettes weighing somewhat more than a pound. The ratio of petroleum to the secret material can be made six to one, but in this case there is a diminution of the resistance to pressure which makes it possible to keep the briquettes, as at present manufactured, in heaps at least 50 feet high.

About a pint of petroleum is used in making one of these briquettes. Assuming the price of oil to be 20 centimes a liter (3.86 cents a quart), the price of one of the briquettes described would be about 2½ cents, when prepared by the inventors from material purchased in small quantities for their experiments. If manufactured on a large scale the briquettes would cost considerably less.

The following are the results of a series of trials of the new combustible which I witnessed:

1. *Pressure.*—A briquette was placed under 220 pounds iron weights. (1) Breaking or crumbling, 0; (2) escape of liquid, 0; (3) explosion or spontaneous combustion, 0.

2. *Friction.*—A briquette was reduced in an iron mortar to the consistence of salve. (1) Explosion or combustion, 0; (2) escape of liquid, 0; (3) subsequent combustion on being touched with a match, good.

3. *Water bath.*—A fragment weighing 77 grams (2¾ ounces) was kept in a receptacle ten minutes over boiling water. (1) Explosion or combustion, 0; (2) loss of weight, 0; (3) combustion when lighted, *good.* The briquette burned normally when relighted, after having been extinguished with water.

4. *Fire test.*—A fragment slightly larger than that just described was held eight minutes in an iron pan directly over a spirit flame.

(1) Explosion or combustion, 0; (2) change of weight, one-eightieth loss; (3) combustion on being lighted, good.

5. *Boiler test.*—The coal under a boiler with a heating surface of 43 square meters (about 460 square feet), a pressure of 7 atmospheres and two fireboxes was lighted by means of four briquettes, two in each box. The boxes were perfectly clean and empty, and the coal was introduced, in my presence, without admixture of cotton waste, wood, or other material, and was ignited solely by contact with the briquettes.

The time required to ignite the coal was fifteen minutes. The briquettes themselves burned forty-five minutes.

GEO. GIFFORD, *Consul.*

BASEL, SWITZERLAND, *April 6, 1905.*

INTERNATIONAL SILK CONGRESS.

(From United States Consul-General Guenther, Frankfort, Germany.)

A recent issue of the Frankfurter Zeitung contains correspondence from Crefeld stating that the chamber of commerce of that city has received an invitation from the Silk Association of Turin, Italy, to participate in an international congress that is to deal with questions that concern the genuineness and durability of silk goods. For more than a decade complaints have been made concerning the lack of durability in silk goods. In justice to the manufacturers it should be stated that the purchasing public is largely at fault in buying very cheap qualities of silk, to which the dyeing establishments have added so much coloring matter that their durability has been greatly lessened.

The silk manufacturers have often endeavored to prevent this "loading." The congress at Turin will endeavor to devise means to do this successfully, for in its present form the practice is equally injurious to the manufacturer, the dyer, and the merchant. The Silk Association of Turin proposes to establish a permanent investigation of silk textiles with reference to "loading."

The chamber of commerce of Crefeld, however, blames the purchasing public for encouraging the practice of purchasing cheap goods, which could not be sold so cheaply were they not "overloaded." The congress, it thinks, will have no influence with the purchasing public. The silk association of Turin is principally interested in an increased use of raw silk, and is, therefore, opposed to artificial silk. In consideration of these circumstances the chamber of commerce of Crefeld went no further than to authorize its presiding officers to appoint delegates to the congress at Turin, provided they deem it advisable to do so; otherwise, to invite German silk manufacturers to a conference at Crefeld.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *April 12, 1905.*

CHICORY QUOTATIONS IN MAGDEBURG.

(From United States Consul Hannah, Magdeburg, Germany.)

At a meeting of the local chamber of commerce held yesterday the presiding officer reported that a large number of chicory manufacturers some time ago suggested that five Magdeburg broker firms, under the presidency of a disinterested party, give each week the price quotations for dried chicory and that they be published by the chamber of commerce. In a conference held on March 29 of the present year, in which the five broker firms and a large number of chicory manufacturers took part, the broker firms expressed themselves as willing to undertake quotations for dried chicory and beets under the following conditions:

The prices for 100 kilograms (220 pounds) of goods customary in the market will be quoted. Whether or not a tendency shall be expressed shall be left to the judgment of the brokers. An estimate of the value of Belgian goods will be given as a note among the quotations. Quotations shall be made each week, Wednesday morning at 11 o'clock, the brokers sending the quotations in sealed envelopes to the chamber of commerce, where a disinterested expert makes the classification. City Councilor Cruenwald has been requested to accept this office.

The chamber declared itself agreeable to these suggestions.

FRANK S. HANNAH, *Consul.*

MAGDEBURG, GERMANY, *April 7, 1905.*

BUSINESS CONDITIONS IN THE TRANSVAAL.

(By United States Vice and Deputy Consul Heldt, Solingen, Germany.)

In the Transvaal Colony, which has been suffering from business depression for a number of years, indications point toward an improvement of general trade conditions. Mining industries, which are very closely connected with the economic conditions of the country, are steadily improving, which is due, it is said, to the increased influx of negro laborers and the employment of Chinamen. These Chinamen, it is claimed, are becoming more efficient and adapt themselves to the work very readily.

The revival of trade is indicated by the opening of several regular shipping connections, among which is a steamship line between Sweden, Norway, and South Africa, consisting of ships having a lading capacity of from 6,000 to 7,000 tons. A regular steamship line has also been opened between Canada and South Africa, the steamers of which have refrigerator space of from 30,000 to 40,000 cubic feet. The Oriental

Line intends to run its steamers around the Cape instead of through the Suez Canal as heretofore.

The Standard Bank of South Africa has opened branch offices at Hamburg and at New York, which means a great deal for the promotion of trade intercourse between North America and South Africa. Building activity has been very great of late, particularly at Johannesburg. During the first quarter of 1904, 611 plans for 1,394 buildings were made, and 588 plans for 1,489 buildings, and 697 plans for 2,034 buildings during the second and third quarters, respectively. This activity in building, the increased working of the mines, and the improvement of the market in securities, have had a beneficial influence on commercial intercourse and caused a decided revival in most branches of trade. The large stocks of building material, hardware, provisions, mining materials, etc., which importers and dealers had on hand, have been very much reduced, so that an increased demand can be counted on, and the year 1905 is expected to be very satisfactory in a commercial way.

VICTOR W. HELDT, *Vice and Deputy Consul.*

SOLINGEN, GERMANY, *April 12, 1905.*

DIVORCES IN AUSTRALIA.

(From United States Consul Goding, Newcastle, New South Wales.)

Divorces in the Australian States are more numerous than in most of the countries of the world, though the average is far below that reached in the United States. The number is particularly large in Victoria and New South Wales, where the facilities for procuring divorce are greater than they are in the other States. Since the passing of the Shiels act of 1890, which made desertion for three years a ground for divorce in Victoria, divorces have averaged over 100 per annum, the greatest number being 131 in 1902, and the lowest, 85, in 1895. The total for the period 1891–1903 was 1,250, and the average per 10,000 marriages for the period 1896–1902 was 125.4.

In countries where divorce laws are in force this record is only surpassed by those of Germany, 165; France, 180; Roumania, 204; Switzerland, 432; and the United States, 612, divorces for every 10,000 marriages.

Mr. Coghlan, the Government statistician, has divided the time since 1890 into two periods, and the average number of divorces in Victoria has increased from 119.6 in the first period, 1891–1895, to 125.4 in the second, 1896–1902. In 1903 there were 119 divorces and 7,605 marriages, giving an average per 10,000 marriages of 156.5 for the twelve months, but a comparison founded on one yearly period is not altogether fair. It may, on the whole, be concluded that divorces in Victoria remain at a fairly constant level, which though high, shows no

sign of any extraordinary increase beyond the proportional one to be expected with the increase of population.

In New South Wales the figures are much higher than they are in Victoria. An act similar to the Victorian measure came into force in New South Wales in 1892, and the number of divorce decrees at once showed an increase—an almost alarming increase. In the quinquennial period 1891–1896 the number of divorces granted in New South Wales was no fewer than 1,087, against 212 for the period immediately preceding it. This total gives an average of 272.3 divorces per 10,000 marriages, which is much more than double the average in Victoria during the same years, and is exceeded only by those for Switzerland and the United States. In the period 1896–1902 the number of divorces granted in New South Wales was 1,675, an average of 268.4 per 10,000 marriages, the third greatest among all countries where divorces are in force.

In the other States of the Commonwealth the averages are comparatively low, being 41 for West Australia and Tasmania, 30 for Queensland, and 29 for South Australia. New Zealand, on the other hand, had 116.6 divorces per 10,000 marriages during the six years from 1896 to 1902. The figures for other countries, per 10,000 marriages, are as follows: Canada, 4; United Kingdom, 11; Norway, 16; Austria, 43; Greece, 50; Belgium, 81; Sweden, 87; Cape Colony, 98, and the Netherlands, 103.

F. W. GODING, *Consul.*

NEWCASTLE, NEW SOUTH WALES, *March 13, 1905.*

FOREIGN TRADE OF GERMANY IN 1904.

(From United States Consul-General Guenther, Frankfort, Germany.)

According to the annual report for 1904 of the chamber of commerce of Leipzig, the commercial center of Saxony, all branches of business in the district enjoyed increased activity and sales during the year, but in many cases, especially in manufacturing, the increased trade was not attended with an increase in profits. The prevalent cutting of prices, owing to overproduction and high prices for raw materials, contributed to the shrinkage in profits. Another hindrance was the growing efforts of manufacturers to sell their products direct to consumers, dispensing with the aid of middlemen. This departure has been taken by manufacturers of paper, sanitary articles, etc. The wholesale trade was injured by petroleum companies supplying consumers from tank wagons, and the many agricultural associations and cooperative societies which buy their supplies direct from the manufacturer. The following is the gist of the report:

The export trade of Germany to foreign countries was unfavorably affected by the enhancement of tariff rates, often aimed at the indus-

tries of Germany. It is to be regretted that the new commercial treaties offer no prospect of more favorable conditions. The export trade to the United States, Mexico, Cuba, Argentina, and Ecuador was satisfactory. Exports to the West Indies, Trinidad especially, increased considerably.

Business with Brazil has somewhat improved, but is injured by the preferential tariff rates accorded to some products of the United States. Commercial relations with eastern Asia have been disturbed by the Russo-Japanese war. Owing to very strong efforts to retain trade in Australia business with that country was satisfactory, and German factories will in the future receive preference there, as they become more able to compete by the installation of improved machinery. The industrial development going on in Spain has brought large orders to German machine works. It is doubtful whether German exports to South Africa will ever regain their former volume. Preferential tariff rates favor British products, and the Dutch element which favored Germany is pushed more and more to the rear. Trade with Ceylon has increased considerably. Efforts made by manufacturers to sell their goods abroad through their own commercial travelers instead of through export commission firms, as was formerly the practice, are quite apparent.

It is noteworthy that German fruit marmalades are crowding English conserves out of the German market and are even competing successfully with the British product in foreign markets. The unusually large offerings of the popular Santa Clara prunes in this market leads to the belief that the American exporters in many cases resort to cheating by wrongly marking the boxes, which will undoubtedly damage the trade in Germany. There was a lively trade here in American evaporated apples. During the first half of the year the sale of California apricots was rather weak, however, owing to the distrust of the dealers caused by the inhibitory police action.

The demand for gas, benzine, and petroleum motors was so lively that the factories had to work overtime. The installation of electrical plants was also satisfactory, though prices were very low. Business in cable railroads was good. Much of it was done in foreign countries, yet competition is getting sharper and the cost of traveling in transoceanic countries has been much increased. The home sales of agricultural machines and implements were satisfactory, but the foreign trade, one-half of which was done with Russia, was not so satisfactory.

Machinery for utilizing bones and for making glue met with good sales; most of the orders were from India, England, Russia, and Japan. All establishments making machinery for the paper industries, printing, and the book trade were well employed, especially those manufacturing fast printing presses; but the production of letter types and the machines for making them suffered from the introduction of a new typesetting machine. Among importations in this line to Germany is to be noted an American type-casting and typesetting machine.

The prices of scientific instruments were depressed by American competition, which established agencies for the sale of instruments in Germany. Manufacturers of money safes and steel-clad bank safes were fully employed on home and foreign orders.

The demand for artificial indigo constantly increases. In the home and foreign markets American printing colors successfully compete with us.

The manufacturers of harmoniums were well employed on home and foreign orders, but had to make strenuous efforts to combat the competition of the powerful American harmonium manufacturers in the German market. The home sales of orchestrions are severely handicapped by the excessive municipal taxes put on these instruments in public places (taverns, restaurants, etc.). This tax amounts to $150 per annum on an orchestrion in the city of Dresden.

The export trade in rubber goods was not satisfactory, the advance in the price of the raw material reducing the profits. Sales to Brazil and Cuba were difficult on account of the preferential tariff rates given to United States rubber goods.

In the city of Leipzig, the headquarters of the German book-publishing trade, there are 2,916 firms filling orders, and its Book Publisher's Exchange has 3,240 members. Leipzig also has one of the most celebrated universities in Germany, and is renowned for its music schools and concerts. Many Americans of both sexes study at Leipzig.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *February 27, 1905.*

STATE MARKETING OF MEXICAN SILVER.

Under date of April 12, 1905, United States Consul-General James Russell Parsons, jr., Mexico City, transmits the following clipping from the Mexican Herald of even date relative to the facilities offered to miners for the disposal of their silver, as indicated in an Executive decree issued by the President of the Republic on April 11:

ARTICLE 1. There is established a public service, of which the directorship of the mints will have charge, for the purpose of advancing funds to persons so requesting on bars of silver which they may deliver in the Republic to be sold abroad, and of selling these bars on behalf of the interested parties on the best possible conditions, without charging any commission or interest for the Government, but also without loss to the exchequer as a result of these operations.

ART. 2. The department of finance will determine, in the respective rules of practice, the conditions on which advances are to be made to the owners of silver bars and the requirements and formalities that have to be fulfilled in all operations connected with the matter until the final liquidation and the payment of the balance which said liquidation shows to be owing to the interested parties.

ART. 3. The same department will enter into the necessary contracts for the sale abroad of bars belonging to private persons who may desire to utilize the service in question, with the understanding that all expenses under those contracts, as well as expenses for freight, insurance, refining, and others in connection with the silver bars, will be a charge against the interested parties, and will therefore be deducted from the proceeds of the sale.

ART. 4. The service to which this law refers will commence in the mint of Mexico City on May 1, 1905, and in the assay offices outside of the capital on days to be fixed by the finance department, as circumstances may permit. Said service will cease at the offices where few bars are presented when the Executive of the Union sees fit so to direct by means of a decree.

ARE GYMNASTICS INJURIOUS?

Under date of March 22, 1905, United States Consul Marshal Halstead, Birmingham, England, transmits the following from the Birmingham Daily Mail of even date:

The fact that the brain is brought into operation to some extent by every act of physical exertion has, of course, been known for generations, but it has been left to Professor Mosso to show, by means of his ergograph, the comparative strain imposed upon the brain by physical exercise, mental study, and the play of the emotions. The facts thus established are, however, not generally known, and in these days of physical culture to hint that artificial forms of exercise, however scientific in theory, are not really beneficial at once attracts attention and protest. Thus Professor Muirhead, of the Birmingham University, who acted as chairman on the occasion of Dr. Walter Jordan's lecture on "Fatigue" last night, made what has appeared to many people in Birmingham a somewhat sweeping condemnation of gymnastics. He said that gymnastics were the most exhaustive and demoralizing kind of exercise that could be engaged in, and added that he had suffered from the exercise himself and knew what it meant.

Professor Muirhead's statement has come as a surprise to, among others, many of those engaged in the various educational institutions of Birmingham, and they respectfully decline to accept his view of the matter. They point out that articles have appeared in the Mail from time to time on the system of physical training adopted in the grammar and technical schools, with particular reference to the anthropometric examinations, by means of which the instructors are able to gauge with reasonable accuracy the effects of gymnastic training upon the scholars, and that it has been especially interesting to find, as a result of these anthropometric records, that not only are the boys engaged in gymnastics developing in physique, but that as a rule those boys who distinguish themselves in athletic pursuits are to be found also in the lists of those displaying scholastic attainments.

Professor Muirhead, as a matter of fact, did not intend to go quite so far as he appears to have done by the remarks published. What he desired to impress upon the managers of schools is that gymnastics are a brain as well as a muscular exercise, and can not be regarded as a rest for the student. "I think," said Professor Muirhead to a Mail reporter, "that what we now know as to the physiological effects of different kinds of exercise demands an overhauling of the older systems of gymnastic training. Gymnastic trainers are often ignorant of the real principles on which physical exercise should be based, and our existing system is a compromise for open-air exercise. Indoor gymnastics are very exhausting, and in my view one of the best forms of gymnastics is the outdoor games, such as the public schools have in their field sports."

AUSTRALIAN LAND QUESTION.

(From United States Consul-General Goding, Newcastle, New South Wales.)

The land question in New South Wales is to-day one of the greatest problems legislators have to face. There are thousands who desire to make homes in the rural districts but are unable to attain their desire, owing to the evils of the land system, which arise chiefly from the multiplicity of laws on land matters. The lands resumption act in Queensland was passed in 1895, and since it became law nearly 400,000 acres of land have been resumed at an average cost of $12.50 per acre. The greater portion of the land resumed is on the Darling Downs, and is in every way suited to agricultural and dairying pursuits. Under the operation of the closer settlement principle a sturdy class of farmers has settled in these districts, with the result that the landscape now presents innumerable pictures, in which prosperous farms and homesteads are the chief features.

In many respects the Queensland law differs from that of New South Wales. In the first place there is no compulsory element in it. An estate is submitted to the government and referred by it to the land court, which fixes the price at which it may be resumed. Once the land passes into the hands of the State it is divided into blocks, provision being made for townships, roads, etc. The land is then thrown open for settlement, each settler being allowed twenty years in which to complete his purchase, with the option of paying the whole amount in five years, and thus saving interest. In each case five years' residence, either personal or by agent, is provided for. The result of ten years' experience has fully justified the Queensland government in pursuing its policy. Large numbers of people have been settled on the land, thus increasing the products and bringing additional revenue to the railways, while so far the State has actually made a profit on the transactions. Although money for land resumption had to be borrowed, the repayments have more than covered the outlay and interest charges.

A further advantage has been secured in a way not altogether expected. The avidity with which the land offered was taken up induced owners of private estates to follow the example set by the State, with the result that large areas of land in various parts of Queensland were offered for sale on easy terms. This land also found ready purchasers and led to further close settlement. Many districts have been completely changed by the adoption of the closer settlement principle, and townships surrounded by farms exist where once extensive areas were devoted exclusively to sheep and cattle raising. One advantage is that a large area of the best land is still available and in

the hands of the State. As an object lesson in closer settlement, the results in Queensland should be valuable and tend to reassure those who are inclined to deprecate the merits of the principle.

F. W. GODING, *Consul.*

NEWCASTLE, NEW SOUTH WALES, *March 13, 1905.*

COMMERCIAL HIGH SCHOOLS OF GERMANY.

(From United States Vice and Deputy Consul Heldt, Solingen, Germany.)

In many of the larger German cities commercial schools have been opened for the purpose of preparing young men for practical business careers. In addition to these commercial schools, which are of a fundamental nature, there are two commercial high schools, one at Leipzig and the other at Cologne, for students who desire to take more advanced courses of study. The following curriculum of the Cologne school for the summer term beginning April 26 has just been published, and gives a fair idea of the work done by these schools.

The course has been enlarged in nearly all the branches, particularly political economy, natural history, and technics, as well as languages. Special attention is given to commercial correspondence in English.

Lectures in the summer term of the Cologne Commercial High School.

Branches of study.	Number of lectures.	Hours weekly.
Political economy	25	38
Law	13	27
Commercial geography, technics	18	37
Modern languages (8)	31	67
Commercial bookkeeping, arithmetic (trade commodities)	16	29
General knowledge of spiritual things	11	15
Stenography	4	8

A course of lectures on fellowships will be introduced; also a course of lectures on the technics of banking and board of trade business, with experiments in actual practice, and discussions on political economy for the more advanced students. Detail work with regard to balances and statistics will be done for the first time along the line of commercial science, in a narrow sense. In addition to the already existing chemical laboratory one for physical-electro-technics will be opened. Twenty-six public lectures, occupying thirty-one hours per week, will give persons who are not students an opportunity to increase their knowledge in the sphere of art and science in a general way.

During the term just ended the school was attended by 252 matriculated students and by 1,267 others.

The three commercial societies of Solingen have jointly arranged for a course of commercial high school lectures, beginning May 1,

the object of which is to give the younger business recruits a more thorough practical education in commercial practices.

VICTOR W. HELDT, *Vice and Deputy Consul.*

SOLINGEN, GERMANY, *April 13, 1905.*

COTTON CROP OF INDIA, 1904–5.

(From United States Consul Fee, Bombay, British India.)

The first general official memorandum upon the Indian cotton crop for the season of 1904–5 has just been furnished me by the director-general of statistics of India. The area under cotton was 19,000,000 acres, being 5 per cent greater than last year, and 30 per cent above the general average. The total output is given as 3,494,107 bales averaging 400 pounds each, being 10 per cent better than last year's return and 40 per cent above the average. The final reports on the early crop, summarized in the memorandum issued on December 21, 1904, showed that cultivation had increased and that the output was good. The late crop was then expected to be deficient and the reports just received prove the correctness of this anticipation.

In Bombay the crop has suffered from want of moisture and from cold and disease, so that the area under both early and late cotton is less than last year, and the estimated output has fallen by 36 per cent. *In Sind* the crop is in fair condition, but the expected yield is still *12 per cent* below that of 1903–4. Want of rain is reported to have *seriously* damaged the crop in Madras, where, in spite of an increase *of 9 per cent* in the area, the expected output is 22 per cent less. *Elsewhere* the reports are generally favorable, and there is a notable *improvement* in Rajputana.

Area under cotton in the several provinces of British India.

Province.	Area.		
	1904–5.	1903–4.	Average for preceding five years.
	Acres.	*Acres.*	*Acres.*
Punjab	1,579,600	1,205,100	1,017,280
Northwest Provinces	49,402	35,900	29,900
United Provinces	1,203,430	841,417	1,073,849
Bengal	89,800	95,800	135,000
Central Provinces	1,540,604	1,292,297	904,305
Berar	3,069,730	2,851,222	2,482,470
Bombay	5,065,696	5,701,964	4,301,304
Sind	227,377	209,213	118,868
Madras	1,809,700	1,664,700	1,396,000
Burma	188,321	165,154	147,516
Assam	32,000	31,000	.....
Ajmer-Merwara	33,111	33,111	.....
Hyderabad	2,730,686	2,660,713	1,575,333
Central India	843,481	772,173	522,570
Rajputana	463,573	394,795	382,929
Mysore	58,222	58,222	.....
Total	18,985,333	18,012,781	[a] 14,269,504

[a] 182,180 acres unaccounted for.

Yield of cotton in the provinces of British India.

Province.	1904–5.[a]	1903–4.	Average yield for five preceding years.
	Bales.[b]	*Bales.*	*Bales.*
Punjab	362,705	261,241	191,234
Northwest Provinces	10,497	8,424	6,200
United Provinces	366,561	183,540	295,925
Bengal	25,803	21,088	22,400
Central Provinces	409,606	273,473	156,385
Berar	726,251	485,696	553,792
Bombay	676,155	1,059,481	644,034
Sind	100,671	115,154	49,132
Madras	136,560	174,922	185,701
Burma	37,187	27,487	22,054
Assam	14,000	11,500	.....
Ajmer-Merwara	13,820	13,820	.....
Hyderabad	281,857	275,203	127,101
Central India	141,566	129,661	64,400
Rajputana	181,313	113,365	107,823
Mysore	9,555	9,555	.....
Total	3,494,107	3,163,610	2,426,181

[a] Estimated. [b] Bales of 400 pounds each.

The course of prices for broach cotton at Bombay, per candy of 784 pounds, is given for the last four months of each of the preceding five years. It is claimed that the broach grade of cotton is the best produced in India.

Price of broach cotton in Bombay, per candy of 784 pounds.

Month.	1900.	1901.	1902.	1903.	1904.
	Dollars.	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
September	69.34	67.72	69.66	72.90	87.48
October	78.73	70.31	65.77	72.90	82.94
November	70.63	67.72	64.80	76.95	78.73
December	72.58	65.45	60.91	88.27	73.55

Exports of cotton from British India to the several countries in the year ended March 31, 1904.

Whither exported.	Quantity.	Value.
	Pounds.	*Dollars.*
United Kingdom	73,044,496	6,863,165
British possessions:		
Hongkong	14,694,400	1,205,494
Ceylon	905,184	70,789
Australasia	428,472	34,735
East Africa	312,704	4,982
All other	747,280	10,701
Total British Empire	89,527,536	8,189,866
Foreign countries:		
Austria-Hungary	78,988,672	7,581,866
Belgium	121,984,352	10,829,474
France	62,692,448	6,262,258
Germany	175,668,192	15,481,567
Italy	112,100,688	9,897,722
Russia	14,744,668	1,449,382
Spain	29,734,320	2,884,087
United States	144,256	18,386
Japan	188,213,200	17,282,455
All other countries	4,482,068	1,286,852
Total to foreign countries	798,752,864	72,974,049
Grand total	888,280,400	81,163,915

During the year 1903–4 India produced 3,163,610 bales of cotton and exported 2,220,701 bales, therefore 942,909 bales were left for home consumption.

WM. THOS. FEE, *Consul.*

BOMBAY, INDIA, *March 16, 1905.*

ZAPOTE TREE AND CHICLE GUM.

(Extract from the annual report for 1903–4 of United States Consul A. J. Lespinasse, Tuxpam, Mexico.)

ZAPOTE WOOD.

Among the numerous natural products abounding in this fertile region the zapote tree stands preeminent, its gum and wood during many decades having formed a source of wealth to a large number of individuals and corporations, native and foreign, which have obtained from the State government proprietary rights or concessions to extract chicle gum.

The wood of the zapote tree is dark purplish red, and although exceedingly hard when first cut it is easily worked until thoroughly seasoned, when only the finest-edged tools have any effect on its flint-like surface. Sharp-pointed nails can be driven into the wood only about an inch. The fiber is so dense that the wood sinks rapidly in water, and will remain immersed for years without being affected in the least. Zapote door frames in the ruins of Uxmal are as perfect to-day as when first placed in position. The wood is susceptible of a beautiful polish. The average zapote will square 5 to 8 inches and occasionally 2 feet. It is claimed that the bark is employed to great advantage in tanning processes, and that leather so treated is superior to other kinds.

The magnificent trees are rapidly disappearing, as the operators are taking no precautions to protect them from the destructive methods of the chicleros, who, in their greed to obtain all the sap possible, cut the trees so deep that they do not recover from the effects of the incisions, but gradually decay. Before the trees reach this stage, and while still easy to work, they are cut down and shaped into building material.

CHICLE.

The chicle industry extends from this section as far as the extreme southern portion of Yucatan, which produces the largest yield, but in quality the gum is inferior to that obtained from this section, especially in the Tuxpam district. The latter gum commands a higher price in the United States, to which it is almost exclusively shipped.

Zapote trees thrive best on high, rolling land, and although trees are found on the lowlands, they are inferior in both sap and wood. Continuous tapping does not appear to have a seriously detrimental

effect, provided the incisions are not too deep. Trees are known to have been tapped for twenty-five years, but after that time produced only from half a pound to 2 pounds of sap. If allowed to rest five or six years they will produce from 3 to 5 pounds. The average height of the trees is about 30 feet. Zapotes are exceedingly slow in growth, and require from forty to fifty years to attain full height.

The chicle season opens early in September, though the yield at this period is limited, and, owing to still copious rains, the chicleros (laborers) are retarded in their work; but this is to a great extent a benefit, as rains are favorable to an abundant flow of the sap, provided the rainy season is not prolonged beyond October, in which case sap would contain a larger proportion of water, and the loss in condensation would be heavy and the product inferior. New trees will produce from 15 to 25 pounds of sap, according to size. In order to produce 25 pounds a tree would have to square about 2 feet and be from 25 to 30 feet high.

The process of extracting the sap is extremely primitive. Open V-shaped incisions are made in the tree trunks, permitting the sap to flow in a continuous stream. At the foot of each tree a palm or other appropriate leaf is fastened, which acts as a leader or gutter from which the chicle drips into the receptacle placed to receive it.

The sap as it flows into the incisions is beautifully white, has the consistency of light cream, but as it runs down it gradually becomes more viscous, until, as it drips into the receiving receptacle, it is of the density of heavy treacle. It is very adhesive, and is extensively employed for repairing broken articles and fastening leather tips to billiard cues. When the receptacle is filled it is emptied into a large iron kettle mounted on a temporary stone foundation, with a small opening for wood, the fuel used in the boiling process to evaporate the water, which amounts to about 25 per cent of the sap. As the boiling progresses the chicle thickens, and when it has reached the proper consistency it is allowed to settle until a trifle more than lukewarm, when it is kneaded to extract more of the water content, and is then shaped by hand into rough, uneven loaves weighing 5 to 30 pounds. If carefully cooked it is of a whitish gray shade; if carelessly handled and improperly boiled it is a dirty dark gray. When prepared with extra care it is of a light pinkish color. Much deception is practiced by the chicleros, who, in order to increase the weight, insert stones, bark, sand, or wood in the boiling chicle before it is formed into loaves. The sap freshly extracted will weigh about 7 to 8 pounds to the gallon.

Prices in this market range from $8 to $15 Mexican currency ($3.82 to $7.16)[a] per 25 pounds; last season the average was about $14 ($6.38) per 25 pounds.

[a] The Mexican dollar was valued at 47.7 cents by the United States Treasury on April 1, 1905.

If a good worker, a chiclero can obtain 50 to 75 pounds of chicle a week, for which he receives 20 cents Mexican (9.54 cents) a pound. As a rule, arrangements to extract the chicle are made with capataces (contractors), who have charge of the men. They receive about 40 cents Mexican (19.08 cents) per pound, and from this price they must feed and pay their employees.

BRIBING BUSINESS EMPLOYEES IN GERMANY.

(From United States Consul-General Guenther, Frankfort, Germany.)

Bribing employees who act as buyers for mercantile houses or who in the capacity of salesmen or saleswomen attend to customers in retail shops, especially in department stores, is an abuse which has grown in Germany for some years and has caused many complaints in business circles. It has become so serious that the chambers of commerce and other mercantile bodies have considered it necessary to discuss measures for relief.

The commercial traveler or representative of the manufacturer who wishes to sell to the retail dealers will, in many cases, pay employees of the latter commissions in consideration for giving the goods of the bribing house the preference, showing them to the customers in the shop, and keeping the goods of other firms out of view. Some of the large retail firms employ men or women to purchase supplies; others, when ordering, consult their sales people as to making selections.

This practice of bribing extends to other branches of business. A case has just been decided by the supreme court of appeals at Cologne, where the technical manager of a car-building concern was discharged by the company which had employed him, because he accepted a commission from a firm for which he procured orders. The manager claimed that such gifts, that is, percentages paid him in money, were customary and worked no injury to his employers, but the court held that the action constituted a gross breach of trust, and that the manager was in duty bound to study the interest of his employers and not to be influenced by selfish considerations. The lower court decided against the manager and the supreme court of appeals affirmed the decision.

The chamber of trade and commerce for the province of the Palatinate at Ludwigshafen has petitioned the Bavarian Government to introduce a bill in the legislature to suppress the bribing of employees, which seriously injures legitimate trade and hurts the good repute of German manufacturers. The chamber recommends that the party giving or attempting to give a bribe shall be punished, as well as the person who accepts or asks it. Other trade bodies have adopted similar resolutions. The chamber of commerce of Leipzig has petitioned the Saxon State government to have a law enacted making such bribery a criminal offense. The chamber of commerce of Berlin

in its last annual report also inveighs against this nefarious practice, which it says corrupts business life, increases the prices of goods, and gives unscrupulous competitors an undue advantage over honest merchants.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *April 4, 1905.*

INTERNATIONAL EXPOSITION AT TOURCOING.

(From United States Consul Atwell, Roubaix, France.)

In the latter part of February, 1905, the mayor of Tourcoing communicated to the city council a project for an international exposition to be held in that city during the year 1906. The exposition has now taken form, the ground has been selected, the commercial basis has been decided upon, and during the coming week 40,000 circulars and invitations to participate in the exposition will be sent to different countries in the world.

One of the principal features of this projected industrial exposition will be wool in all its phases, this industry being the chief one in this district. The chambers of commerce of Roubaix and Tourcoing favor the exposition, and, without doubt, mechanical engineers in England, America, and Germany will find it to their interest to exhibit in a center where the latest improvements in machinery are eagerly sought. The different looms on exhibition will be in motion between 2 and 5 o'clock every afternoon, furnishing a much more interesting study than the motionless looms at the Paris Exposition in 1900.

There will be ten sections, an important place being devoted to products employed in textile manufacture, such as wool, cotton, flax, etc., and to machinery used in their manufacture. There will be a section devoted to mechanics in general, and one to industrial chemistry. There will be sections also for tapestry, carpets, and hangings, and an agricultural section. In this exposition technical instruction, which has reached such a high degree of perfection here, will be an interesting feature, and the fine arts section will also be made attractive.

The plan of the exposition is now definitely arranged. There will be two principal alleys, several kiosks, and an immense basin for auto-boat races. Electric fountains will ornament this basin. The Palace of Textile Industry will be the principal building, and it is in this building that all looms will be seen working. In addition to the serious features above cited there will be a water chute, an American toboggan slide, navigable balloons, and other attractions.

It is the intention of the directors of the Tourcoing Exposition to make it rank in interest with the best international expositions.

W. P. ATWELL, *Consul.*

ROUBAIX, FRANCE, *April 3, 1905.*

NEW REMEDY FOR TUBERCULOSIS.

(From United States Consul-General Guenther, Frankfort, Germany.)

The Milan correspondent of the New Vienna Press has interviewed the discoverer of the latest remedy of that dread disease, tuberculosis, Professor Levi, of Milan. He reports that the remedy consists of nothing but hypodermic injections of a preparation the composition of which is still a secret, but the main ingredient of which is allotropic iodine. After ten or fifteen injections an astonishing increase in the weight of the patient results, and after forty to fifty injections a complete cicatrization of the tubercles takes place, and is followed by a complete cure.

Professor Levi discovered the extraordinary healing properties of iodine twenty years ago, when making experiments with reference to glanders in horses. He extended his experiments to tuberculosis of cattle, which showed that iodine resulted in a rapid improvement of the animals.

Encouraged by these surprising results the scientist made the first experiments two years ago with human patients, with favorable results. Twenty persons have so far submitted to the injections, some of whom were in an advanced stage of tuberculosis of the lungs. Professor Levi made his first report concerning his discovery to King Victor Emanuel, and will shortly proceed to Paris to deliver a lecture on his discovery before the Academy of Medical Sciences.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *March 31, 1905.*

Under date of March 31, 1905, United States Consul Theophilus Liefeld, Freiburg, Germany, transmits an article from the London Daily Mail of March 30, 1904, being an interview of a Mail correspondent with Professor Levi, from which the following further information is extracted:

Hitherto the disinfecting power of iodine has never been successfully utilized in curing infectious internal diseases in human beings, for the reason that when iodine comes in contact with human blood it immediately combines with the alkaline elements to form alkaline iodides, the disinfecting properties of which are very small.

Professor Levi has recently succeeded in preparing iodine in such a manner as to deprive it of this property and to cause it, in circulation unmixed through the tissues of the human frame, to come in contact with the tubercular microbes and bring to bear against them all its curative power.

The professor states that after obtaining satisfactory results with animals suffering from tuberculosis he applied his method to human patients with great success, especially in the cicatrization of spreading lesions and the formation of new and healthy tissues. These results

were proved by the examination of many patients and by autopsies made by a commission of doctors on animals experimented upon.

The professor has already received several offers from foreign countries for his secret remedy, which he will probably accept in order to make his discovery more widely known.

GERMAN BUTTER IMPORTS.

(*From United States Consul Harris, Mannheim, Germany.*)

The annual imports of butter into Germany form an important item in the list of commodities shipped in and show a marked tendency to increase. The following official figures for the past three years show the amounts imported, in metric tons of 2,204.6 pounds each:

Imports of butter into Germany in 1902, 1903, and 1904.

Year.	Tons.	Value.
1902	16,690	$6,800,000
1903	24,294	10,300,000
1904	34,340	14,600,000

Important changes have occurred in the amounts imported yearly from the several countries from which the supply is mainly drawn, as will be seen by the following statement:

Imports of butter into Germany from the several countries in 1902 and 1904.

Whence imported.	1902.	1904.
	Tons.	*Tons.*
Denmark	436	5,471
Russia	4,052	11,824
Netherlands	5,385	10,608
Canada	10	360
United States	12	334
Austria-Hungary	5,440	4,215
Finland	174	129
All other countries	1,181	1,399
Total	16,690	34,340

H. W. HARRIS, *Consul.*

MANNHEIM, GERMANY, *April 8, 1905.*

INFANT MORTALITY IN INDUSTRIAL NATIONS.

(*From United States Consul Hamm, Hull, England.*)

In its department of international comparative statistics the German Imperial labor organ, Reichs Arbeitblatt, has in a recent number some new and very instructive figures bearing on the infant mortality of the leading industrial nations. It shows in tabular form, so that they

can be comprehended at a glance, the relative positions of the different nations on the important question of the preservation or the sacrifice of infant life. The table contains returns from fourteen countries. The figures from the seven principal industrial countries are as follows:

Infant mortality in seven principal industrial countries.

Country.	Year.	Deaths of children under 1 year of age.		
		Number.	Percentage of total deaths.	Percentage of total births (excluding stillborn).
Germany	1901	420,223	35.8	20.7
	1902	370,799	33.0	18.3
	1903	404,529	34.5	20.4
Austria	1901	200,906	31.8	20.9
Switzerland	1901	13,312	22.2	13.7
	1902	12,707	22.0	13.2
Italy	1901	175,855	24.6	16.6
	1902	187,816	25.8	17.2
France	1901	121,684	15.5	14.2
	1902	114,325	15.0	13.5
Great Britain	1901	167,976	26.6	15.8
United States	1900	199,325	19.2	9.7

Germany has the highest rate of infant mortality of any country quoted, and the United States has next to the lowest rate. France occupies the enviable position of having the smallest death rate among children under 1 year of age, although the low birth rate probably has some influence on this result; but France offers a surprising contrast to Germany, where the infantile mortality is more than twice as great.

The question arises whether the rapid industrial advancement of Germany has anything to do with this condition. If it has, that country is purchasing its present progress at a great cost, the deplorable results of which must soon become evident. The situation in the United States, where an even greater industrial advance has been made, would seem, in a measure at least, to nullify such a conclusion. Two reasons, however, for the wide margin between the two countries in infant mortality may be found in the greater abundance and cheapness of food in America and the higher wages paid there, enabling the workingman to live more comfortably and nourish his children better than the German.

In any event is is worth while to study these statistics and make sure that the United States is not purchasing her present industrial prosperity at the expense of future generations.

WALTER C. HAMM, *Consul.*

HULL, ENGLAND, *April 7, 1905.*

GERMAN HIGH-SPEED LOCOMOTIVES.

(From United States Consul Winter, Annaberg, Germany.)

High-speed trials with steam locomotives on the military railway between Marienfelde and Zossen have been carried out during the past few months. It would appear that the superheated steam engine, which was on probation, has given the greatest satisfaction. Coupled to three corridor cars, the engine covered the measured course at a mean rate of 135 kilometers (84½ miles) an hour, and, drawing twice that number of cars, at the rate of 128 kilometers (80 miles) per hour. The superheated steam locomotive referred to is not a new invention, being employed on the Government railway lines. It is proved to have developed a speed of about 100 kilometers (62½ miles) an hour. The trials have shown that this type of engine is more powerful than the usual type of express locomotive, in that it can cover greater distances without changing, and is more economical in coal and water consumption. It is stated, however, that it requires about 22 per cent more lubricating oil.

The engine which was tried is a 2–4 coupled express engine, with "Schmidt superheater," weighing, all told, 85 tons, of which 35 tons represent the four-axled tender. The engine which is to be tested next time is one built by Henschel, of Cassel, and weighs about 30 tons more.

In the trials up to the present, the maximum speed attained by an ordinary type of express engine was 123 kilometers (77 miles) an hour, with three cars, and only 108 kilometers (67½ miles) with six cars attached. In engineering circles it is generally considered that the two-cylinder superheated steam engine has been the most successful.

JNO. F. WINTER, *Consul.*

ANNABERG, GERMANY, *April 10, 1905.*

GERMAN INTERESTS IN EGYPT.

(From United States Consul Hannah, Magdeburg, Germany.)

The attention of the German merchant is being turned more than ever toward Egypt, which has made great progress in the last few decades and looks forward to still greater development. Germany's imports from Egypt in 1894 amounted to $3,094,000, against $13,566,000 in 1903, while its exports to that country in 1894 amounted to $1,666,000, and in 1903 to $5,236,000. Egypt furnished Germany with raw cotton to the value of $11,424,000 in 1903. The large number of German ships passing through the Suez Canal and the high prices charged for English coal caused the German shipping lines to establish a coaling

station at Port Said, which has been in successful operation for several years, increasing the export of German coal to Egypt, the amount during the last year having been 6,300 tons, most of it sent to the German station. There arrived in 1904 at Alexandria, the principal Egyptian port, 70 German ships, of a total tonnage of 150,000 tons.

The North German Lloyd arranged a regular steamship service between Marseille and Alexandria, in 1904, by way of Naples, by which excellent communication has been established. The large passenger lists of these German steamers prove that a long-felt want has been met. The establishment in Egypt of a German bank, a branch of the Orient Bank in Athens, is promised in the near future, and the Hamburg-American Line has decided to provide steamboat communication on the Nile. The six boats to be used are to serve for both the passenger and the freight trade. All these steps point to the presence of many German interests of a commercial nature, and also show in a general way that Egypt is a land of promise and well worthy of more consideration than it has heretofore received from American shippers. With the German boats on the Nile it will be possible to open new markets for German trade and to establish new centers of activity, which will be assisted by the great numbers of foreigners visiting Egypt.

FRANK S. HANNAH, *Consul.*

MAGDEBURG, GERMANY, *April 11, 1905.*

SOLAR ECLIPSE IN AUSTRALIA.

(From United States Consul Goding, Newcastle, New South Wales.)

The eclipse of the sun was seen in Newcastle on March 7, 1905, under very favorable conditions. The afternoon was beautifully clear after the rain, and the sun shone brilliantly. The notes published by Mr. Walter Gale (soon to be appointed government astronomer) were completely verified. I learn that this gentleman observed the eclipse by means of an 11-inch speculum and a 2-inch refracting telescope. The images of the sun and moon, both by projection and by direct magnification, were very satisfactory. Two enormous groups of sun spots and one isolated round spot upon the surface of the sun were visible to the unassisted eyes shielded by suitable dark glasses. The larger is about 100,000 and the smaller 80,000 miles in length; they will remain visible for some days.

The first contact of the moon with the sun's limb was noted at 2h. 52m. and 32s., and the times at which the spots were hidden by the advancing moon were also recorded. The last contact, which occurred about 5h. and 33m., was not seen, owing to the sun sinking behind low-lying clouds.

The diminution of the sun's light and the curious grayness of the landscape at the time of the greatest obscuration were quite noticeable, while a fall of temperature was also registered. In many places the crescent images of the sun, formed where the light passed through small apertures or through the leaves of trees, to which Mr. Gale drew attention in his notes, were very striking. The moon's outline was unbroken by any conspicuous serrations, due to mountains of the surface, and the lunar disk, in spite of the full earth shining upon it, appeared intensely black against the glowing background of the sun. Within the wide area of South Australia and Queensland the eclipse was of an angular form.

F. W. GODING, *Consul.*

NEWCASTLE, NEW SOUTH WALES, *March 14, 1905.*

DRUGS AND PATENT MEDICINES IN MEXICO.

(Extract from the annual report for 1903-4 of United States Consul A. J. Lespinasse, Tuxpam, Mexico.)

Considering the enormous demand for all classes of drugs and patent medicines, it seems incredible that Mexico has not been more thoroughly canvassed by representative houses in the United States. A great proportion of the Mexican trade in crude drugs, fine perfumes, and soaps is controlled by France, Germany, and England. Druggists complain that as a rule American perfumes and extracts stain articles on which they are used, although in odor and lasting qualities they are almost equal to the European products. Patent medicines of American manufacture are in fairly good demand, and their sale could be greatly increased if proper methods were employed to bring their merits before the public in a striking and permanent manner instead of by the spasmodic efforts made now and then through English printed matter, which produces only negative results.

Bright, attractive circulars and catalogues printed in Spanish, not too voluminous, and free of all traces of quackery, should be mailed to houses here, and it can be safely asserted that they will receive generous recognition, especially if followed up periodically by able salesmen, speaking Spanish, who will make a reasonable effort to study national and local requirements. Careful attention should be paid to putting up preparations intended for this market so that they will satisfactorily withstand the deteriorating effects of the climate. Shipping boxes should be as light as possible consistently with strength. Buyers complain, with apparent reason, that French, English, and German drug houses display far more care in their packing than American firms, the result being that European goods arrive in better condition and more attractive in appearance, which satisfies the buyer, who in most cases is influenced by first impressions. This is taken

advantage of by European houses, especially the French, who put up their preparations in a very attractive manner, and the results obtained amply repay them for their trouble.

Oils and paints should be added to the lines of goods to be sold, also such articles as photographic materials, toilet and bathroom supplies, and optical goods, all of which are here in comparatively small quantities, but which would form desirable and profitable side lines. These articles would be especially suited for druggists in the smaller towns, where they are frequently unobtainable. Modern drug store fixtures of simple and inexpensive designs would meet a ready sale if they could be shipped in sections so as to be easily put together on their arrival.

GOVERNMENT CONTROL OF ELECTRICAL DEVELOPMENT IN ONTARIO.

(From United States Consul Worman, Three Rivers, Quebec.)

The provincial government of Ontario has taken steps to retain the right to transmit electricity from sources of water power to the municipalities. This action, recommended by the railway committee on legislation, foreshadows an advanced policy for the development of water resources in the interest of municipalities. Public ownership of public utilities seems to be the object.

The occasion for the move came when the deferred bill granting an extension of time to the Ontario Electric Line was brought up for consideration. The road is to run from Toronto to Cornwall. On behalf of the company, it was said that it had to buy a private highway, and that the work would certainly be pushed forward if an extension was granted. After discussion, the time was extended, but an amendment was carried curtailing the powers of branch lines, which can not hereafter be built without the consent of the government, and must not go out of the county in which they are begun, and must not extend beyond 30 miles in length. Heretofore there was very little limit to powers in this regard.

Another amendment which is under consideration provides that the government shall at all times have the right to enter upon the right of way of the said company and dig up land, erect thereon all the necessary poles or lay all necessary conduits, and erect, put down, or construct all cables, wires, and poles for the transmission of electrical power from any point in the province to the works and plant of any municipality, for distribution of such power within the limits thereto.

In five or ten years all steam roads, it is believed, will use electricity, and therefore a similar clause will be in all new charters and in all renewals.

JAMES H. WORMAN, *Consul.*

THREE RIVERS, QUEBEC, *April 20, 1905.*

YERBA MATÉ.

In view of many calls for information in regard to yerba maté (Paraguayan tea), and the lack of recent consular reports on the subject, the Assistant Secretary of Commerce and Labor, on April 16, 1904, requested the Department of State to instruct the United States consular officers in Argentina, Brazil, Paraguay, and Uruguay to furnish information regarding the plant and its product in the countries named—processes of cultivation, harvesting, curing, etc.; cost of labor; skill required; market prices; quantities exported, and extent and value of the industry—and information bearing on the adaptability of the plant to the soil and climate of the United States.

The following reports were received in reply to these instructions:

YERBA MATÉ IN ARGENTINA.

(From United States Consul Ayers, Rosario, Argentina.)

I have found it very difficult to obtain information as to the quantity of yerba maté consumed here; the custom-house and chambers of commerce seem to take no note of it, though the amount must be large. None is exported from Argentina, so far as reports show, and I can get no record of that which is produced in Misiones, Tucuman, and Jujuy (a small amount compared with that imported from Paraguay and Brazil). The exports to foreign countries (which are small, as the value of the herb seems little known) go from Asuncion, Paraguay, and from some of the southern ports of Brazil.

The average wholesale price of yerba in this market, in barrels (in which it is mostly handled by the retailer), is as follows: Per 10 kilos (22 pounds), Paraguayan, $1.60 to $1.65 (with duties); Brazilian, 85 cents to $1.50 (with duties); Argentine, $1.55 (without duties). The duties are about 1 cent gold per kilo (2.2 pounds). There are especially prepared and flavored brands, put up in highly ornamented, foil-covered packages, of one-half to 2 kilos (1.1 to 4.4 pounds), which bring fancy prices, at retail 44 cents gold for 2.2 pounds.

I find it hard, with my facilities, to obtain details with regard to the processes of cultivation, harvesting, and curing, possibly because of lack of knowledge of them, or possibly because of indisposition to impart the desired information. In the pursuit of inquiries, I have been so fortunate as to meet an American (Dr. Eben Moore Flagg)

who, from a life of several years in the near vicinity of some of the principal yerba plantations in Paraguay, and by reason of habits of careful observation, is unusually well equipped and competent to furnish information on these points. At my request Doctor Flagg has discussed the subject in a letter herewith given.

The yerba industry seems hedged about with many and very strict regulations, not only to control the revenue from it, but also to control and limit its production. Mulhall, the eminent statistician, in writing of the Republic of Paraguay as long ago as 1885, in his Handbook of the River Plata, says of the herb as follows:

> Yerba maté, or Jesuit's tea, is the principal product. It was a Government monopoly under the Francia and Lopez régimes. At present the northern "yerbales" are free to all comers, on paying merely a license for working, but the southern are treated as State property and leased (since 1880) to Messrs. Escobar, who have to pay a royalty of $1 per ton on a minimum product of 600 tons per annum. In the time of Lopez all "acopiadores" (collectors) received 5 cents per pound, and the yerba was then exported to Buenos Aires, Chile, etc., at 10 cents, the difference going to revenue. The average export in 1860–1863 was 2,050 tons, representing a value of $450,000, but the production has more than doubled in recent years, the export duty (which was $100 per ton under Lopez) being now only $12 a ton. The yerbales are said to cover 3,000,000 acres, or 4,000 square miles, and were worked very carefully by the Jesuits, but in later times there has been much waste. The annual production averages 10,000 tons, of which one-half goes for home use, the exportation showing as follows: 1879, 4,850 tons; 1880, 5,520 tons; 1881, 5,680 tons.

According to the Revue Scientifique de Paris, the consumption of yerba in South America is very great, Brazil exporting 30,000 and Paraguay 5,000 tons per annum. "Its virtues," says M. Conti, "as a mild stimulant are well known, as well as its nutritious qualities." In parts of South America it constitutes nearly the whole sustenance of field laborers in outdoor pursuits. Women often take 10 or 12 cups daily. All authors, from the Jesuits down to Bompland, Mantegazza, and Parody, are unanimous that it can sustain the system during long intervals of labor. In South America the consumption has grown fivefold since 1840, although in the city of Buenos Aires it is almost out of fashion. Mr. Parody says that it may well supplant coffee, being also much cheaper, selling at 8 or 10 cents per pound.

It is much easier prepared for market, for while coffee involves a lengthy and complex process, yerba maté can be prepared in thirty-six hours. The leaves are slightly scorched by being passed through a fire rapidly, and then the branches or twigs are suspended in sheds open at the sides, where they are exposed for fifteen or twenty hours to a fire of scented wood, kindled beneath, after which the twigs are ground, and the whole is then ready to be sent to market. In this

manner 10 men in a couple of days can make up from 3 to 4 tons. All effort to introduce yerba maté into Europe has failed. In the reign of Queen Anne the London physicians forbade Jesuit's tea, as productive of barrenness in men and women, but, possibly, they were jealous of its origin, although they certainly encouraged the use of Jesuit's bark. It is now more or less used by 18,000,000 people, in Brazil, La Plata, Chile, Peru, and Bolivia, the annual consumption never falling below 55,000 tons.

Mr. Francisco Seeber, in his late work (Great Argentina, 1904), writes concerning yerba maté:

This beverage is consumed by country people in most of the South American Republics, for they attribute certain tonic properties to it, and prefer it to coffee—perhaps because it is cheaper. Argentina, which produces a yerba maté of inferior quality in Misiones, imports the article from Brazil and Paraguay to the amount of $3,200,000 and $800,000, respectively, making together $4,000,000, while the imports of coffee and tea amount to only $750,000 and $450,000, respectively. Chile must consume very little, since the value of the mentioned imports does not exceed $500,000.

I have no means of information respecting the total quantity exported by Brazil and Paraguay. As the mode of drinking the infusion of yerba is beginning to be altered, by suppressing the "bombilla" hitherto used for absorbing it from the maté (all at present using the same vessel and "bombilla") and by adopting instead the infusion of the leaves and serving the beverage in cups, like tea, it is possible that its use may be extended still more. In Germany it is administered in the form of pills for curing certain diseases, and among us some distinguished physicians prescribe it in certain cases and, in general, attribute to it superiority over coffee.

The foreign workman soon becomes habituated to the use of yerba maté and even asks for it in place of coffee. It is the general belief among the working classes that the yerba is superior to coffee as an alimentary substance. Moreover the yerba only costs half as much as coffee.

Argentina may develop this industry by improving the quality of the plants, with which object experiments are already being made in the botanical garden of the capital.

Should our Government desire seeds or young plants for the purpose of experiments in the cultivation of this undoubtedly valuable plant, I have no doubt that an application for them to the Government of Paraguay would meet with a ready response.

JAMES M. AYERS, *Consul.*

ROSARIO, ARGENTINA, *July 15, 1904.*

(*Report prepared by Dr. Eben M. Flagg, at the request of United States Consul Ayers.*)

CULTIVATING, HARVESTING, AND CURING.

Yerba maté has never been cultivated in any sense of the word. The ground has never been prepared by man for the reception of its seed, and the plant has not received the care of man after its appearance above ground. No portion of it has been reserved for the production of future crops. Random experiments that have been made in these directions can hardly be called cultivation. Nature presents the product, ready to be harvested, in the month of January, and the harvest season closes in August (the month of January is the height of summer in the southern hemisphere). By this time flowers have disappeared from the tree and the seeds have begun to fall.

A tree is ready to be utilized from the fourth to the sixth year of growth, but there is a severe penalty prescribed for gathering from it while it is flowering. The harvesters, who are furnished with the ordinary machetes, proceed to denude the tree by lopping off the outside foliage and twigs, together with any seed that may be remaining, but the top center of the tree must not be touched. It is left to stand for the sake of future production, for if it were removed the tree would die. If a peon cuts down a tree to facilitate harvesting, he is severely punished. Thus denuded the tree is left alone for four years, by which time it is ready for harvesting again. The "yerbatero" (gatherer) thus makes four divisions of his land, and crops are gathered in rotation quadrennially.

Leaves, twigs, and seeds having been gathered, are now brought by the peons themselves to the toasting establishment, which consists of a thatched roof, supported on poles. Under the roof, at a distance to allow standing room, is a kind of scaffolding or loft, on which the gathered yerba is spread. A shallow pit is dug in the floor of the shed, and in it a fire is built, which must not be strong enough to burn the yerba, but sufficiently hot not only to dry it but make it brittle. Toasters stand around the loft and keep turning the leaves with a sort of lifter till the toasting is accomplished. This operation leaves the twigs partially broken up, the seeds completely sterilized, and the leaves in coarse shreds.

The product is now ready for milling, which is the final step in the preparation for market. It is packed in bags in Argentina and Paraguay and in barrels in Brazil, and sent to the mill, which may be hundreds of miles distant, for, although the machinery of the yerba mill is quite simple, it is found to be cheaper to make this long transportation than to mill the product where it is grown. The crudely prepared yerba is now screened through sieves which separate leaves from seeds and twigs. The leaves are then ground considerably finer, but by no means reduced to an impalpable powder; they must be left coarse

enough not to clog the "bombilla" or perforated tube through which the beverage is sucked, and yet fine enough to yield their essence to the boiling water when it is poured upon them in the maté gourd. The screened twigs, which vary in length from 1 to 6 inches and from the thickness of a fine straw to that of a small lead pencil, are not ground, but pass through a revolving chopper that is furnished with cutters set about half an inch apart. Ground leaves and chopped twigs are placed in adjacent heaps on the mill floor and stirred together, and packers armed with crowbars and paddles pound the yerba into bags till the mass is condensed and hard.

SKILL REQUIRED IN CULTIVATING AND CURING.

Although it might seem from the foregoing that no skill was required in cultivating, and but little in curing, those who manage large bodies of men in the yerba districts think otherwise. Peons are selected carefully, and a good one is constrained to remain in the "yerbales" by various artifices. A bad harvester may injure the plants unintentionally and a bad toaster may spoil the product in the curing. Peons may seem to be working automatically, yet the constant repetition of that which was at first irksome ends by identifying the worker with his work in a way that begets a kind of pride which adds to the effectiveness of what he does. Some of the laborers come from the larger cities, others from small towns, still others come from savage tribes of Indians that surround some of the yerba districts.

One may not say that actual criminals accumulate there, but there are in nearly every community disaffected persons who suffer from minor disgraces and misfortunes or domestic annoyances, and to such the "yerbales" offer a kind of refuge. There are but few women there, and one can readily understand that such a motley society must be ruled with a vigor unnecessary to more peaceful districts. One must, however, admit that, under the circumstances, there is but little turbulence, and this fact may be attributed in large part to the consumption of yerba maté by the inhabitants. Were this drink replaced by the native rum, conditions of life would become well-nigh unendurable.

It is of vital importance to the Government that this product prospers. Such prosperity affects not only the welfare of the "yerbatero," but the entire community, so the Government must do what it believes to be necessary to this prosperity without excess of squeamishness or delicacy. The statesman may proclaim a progressive constitution, offering an attractive "bill of rights," but in the yerbales one can not expect the constitution to follow the citizen too closely. In nearly every case the laborer is advanced by the companies a sum of money large enough to cover the earnings of many months, and the advance is constantly renewed, so that he remains perpetually in debt. He can

not pay off this debt with money, and thereby free himself, although it was money that he received, and no friend can pay it off for him. The employer has the legal right to exact that it shall be paid in service only, and if the laborer attempts to run away he can be brought back by the military and punished, so that philanthropic men are wont to regard the yerba industry as a blot upon the civilization of the country—an institution that prevents, or at least discourages, the formation of homes. Now, while this is not the place to discuss this subject, enough has been shown to demonstrate that whatever there is of skill attaching to the laborer in the yerbales, it is not a skill that is born of much hope, and can not, therefore, be superior.

COST OF LABOR.

The yerbales, be they Paraguayan, Brazilian, or Argentine, are all contiguous, and as labor is one of the most movable things we have, wages naturally remain at a level. Peons from the three nations work together indiscriminately, and an increase of wages at any one point would bring plenty of outside applications for that increase to again bring wages down to their level. Again, there is also a point below which wages can not fall if the employer would keep his laborers in the necessary health and strength for them to produce for him. We will calculate wages in Paraguayan paper currency, that being more simple (a Paraguayan paper dollar now being equivalent to 10 cents United States gold): The harvesters will average from 10 to 15 arrobas a day (an Argentine arroba is 25.31 pounds), and are paid about 50 cents an arroba, which will make from 50 to 75 cents gold a day. The toasters are paid 12 cents per arroba; they work in groups of four each, and can toast about 2,000 arrobas per month, which would give each man about $6 gold a month. The men have to feed themselves, and one has to live among them in order to see how little it costs them to live. Lodging costs nothing, neither does firewood for cooking. The climate is mild, so that clothing costs next to nothing, for it is of the cheapest sort. As for food, those who use "maté" do not require much food; beef is about 2 cents a pound, bread they only see in the form of a hard, cheap biscuit; mandioca is full of starch and takes the place of bread to a great extent. It seems incredible that adult human beings can live on such wages, yet I have obtained these figures from the manager of one of the largest yerba firms in the world.

PROPAGATION OF YERBA MATÉ.

Many efforts have been made to plant and transplant yerba maté. It has been seriously declared that it is necessary for the seed to be swallowed by a certain bird, and during its passage through the alimentary canal the seed becomes fertilized.

The New Germania colony, situated on a branch of the upper Jujuy River, has apparently succeeded in raising the trees, for the leading mill in Rosario has already received some four hundred bags of yerba from the colony, and there are no "yerbales" where it is situated. I have met old laborers from the "yerbales" who asserted positively that they have raised plants repeatedly from the seed taken directly from the tree, and that if people have had failures it was because seeds have been planted that had been toasted.

SOIL AND CLIMATE BEST ADAPTED FOR CULTURE.

The soil of the yerbale is generally a loose, sandy loam, the climate subtropical. The plant grows well between latitudes 20° to 28° south. Throughout the zone of its production the country is elevated and rolling, in some places quite hilly. It grows best on the higher ground, and is superior where the climate is cooler. The zone of its production is quite irregular in shape.

VARIETIES.

First and best comes the Paraguayan yerba. It is the strongest and has the richest flavor and brings the highest price. The maté gourd can be filled oftener, and the yield to the hot water is better sustained. Second in quality is the Argentine yerba, from the province of Las Misiones. It is next to the Paraguayan in strength and flavor, and is steadily improving in quality, but the output is small and falls far short of supplying the demand. Third and last is the Brazilian; it is the cheapest of the three, and is produced in the greatest quantity. It is less rich in flavor than the other two, but its production is much more recent, and every five years sees a steady improvement in quality.

MEDICINAL QUALITIES.

The medicinal qualities of yerba maté depend upon a volatile alkaloid that is yielded from only five plants, to our knowledge, and these plants are all used as beverages by the human family, namely, the kola nut, guaraná, yerba maté, tea, and coffee. Whether this active principle is called guaranine, theine, or caffeine its chemical formula is the same ($C_8H_{10}N_4O_2$). Guaraná contains 5 per cent; tea, 1 to 4 per cent; coffee, one-half to 2 per cent; and yerba maté, one-fifth to 2 per cent.

Its medical action is to arrest the rapid consumption of tissue and consequent feeling of weariness that comes from excessive labor of mind or body. It certainly does prevent hunger. The Paraguayan retires to sleep after having eaten his heaviest meal, and in the morning he takes no breakfast, as we understand it, nothing but yerba maté, and on that alone works till nearly midday, doing his hardest work of the day.

I have often thought it would be of inestimable value to the Army and Navy, for the entire outfit of a soldier or sailor would not take up so much room as a cup and spoon, and the beverage could be prepared at any moment of the day or night without the intervention of a cook. It would cost about one-fifth the price of tea and would not make the consumer bilious, as coffee is inclined to do. Again, all of us may be subject to demands upon brain or body when both are more or less exhausted. If we take alcohol, there is danger of acquiring a habit that has done more to wreck the happiness of man than anything that has ever cursed the world; if we take coffee, there is danger of bringing about a bilious attack, and tea, though less dangerous, still has its victims; but here is a plant that millions of human beings resort to every day, and yet it is rare that one can find a person injured by its use. Another valuable quality that I would urge upon general consideration is as a substitute for alcohol as a beverage. It is fearful to contemplate what the crime and violence would be in a country like Paraguay, where strong rum can be bought for 6 cents a quart, if the people were deprived of this valuable plant. It is also valuable as a remedy for migraine and to counteract the depression of an alcoholic debauch, and not the least among its medicinal qualities is as a remedy for dyspepsia.

PREPARING THE BEVERAGE.

In popularizing yerba maté in the United States one will be confronted at the outset with the current error that it is a tea. It is not a tea, but an ilex, or species of holly. An attempt to treat it as a tea is likely to result in discomfiture, for it is impossible to get the best results from the plant by any treatment to which we subject tea, and therefore I will describe the four principal ways of preparing the beverage. They are (1) maté amargo (bitter); (2) maté dulce (with sugar); (3) maté con leche (with milk), and (4) cocoa maté (with cocoanut). The little gourd in which the beverage is steeped is called the maté (pronounced mat-tay). It is, roughly speaking, egg-shaped, although the base is much broader proportionately than is the large end of an egg. It will hold on an average a small teacupful. Its shell is about two lines in thickness. The narrower end of the gourd is cut off, leaving an opening of about the size of a silver half dollar. The gourd grows tan colored, but is usually stained jet-black, the better to hold the heat, for even a few degrees of heat count in the success of the beverage.

We now come to the tube, or "bombilla." Imagine a thermometer tube and bulb, about 8 inches long, made of metal, the tube about the size of a lead pencil, the bulb about the size of a hazelnut, but flattened on one side, so as to be more or less a hemisphere. The object of this hemisphere is to provide an edge with which the inner surface of the

gourd may be scraped out, when it is necessary to renew its contents. This hemisphere is perforated with holes so small that the ground yerba can not enter them, and so distant from one another that the liquid can not be sucked too rapidly. You set this flattened bulb against the bottom of the gourd, and proceed to place around it the ground yerba, say about two teaspoonsful. The little twigs previously mentioned play an important rôle in the process. Strange to say, neither the leaves alone nor the twigs alone will give the proper flavor. Boiling water is now poured into the gourd, and almost immediately the first draft can be taken. While this is being swallowed the yerba in the gourd is swelling so that the second pouring of hot water produces a draft much stronger and of richer flavor, though less liquid can be drawn, owing to displacement caused by the swelling of the contents of the gourd. In this way the gourd can be filled six or eight times according to the quality of the yerba and the taste of the drinker, some emptying the gourd when the yerba has yielded the maximum of its strength and others continuing when the infusion has begun to weaken.

Such is the ordinary "maté amargo." In order to make "maté dulce" it is only necessary to add sugar according to taste. "Maté con leche" (milk maté) is made by pouring milk on the yerba instead of water. It softens somewhat the bitter flavor, but the drink most delightful to the palate is "cocoa maté." The small nut of the cocoa palm has a spherical meat, about one-half inch in diameter, abounding in a rich palm oil. These are crushed in a mortar and added to the yerba with a little sugar. Boiling milk is then poured on the mass, and the oil of the nut, laden with the cocoanut flavor, softens the bitterness of the yerba, making a beverage very smooth to the palate and of peculiar delicacy.

I will close this long epistle by remarking that it is written entirely with yerba (the waste of the warehouse put into a barrel with water and allowed to ferment).

EBEN M. FLAGG, D. D. S.,
Ex-Vice-Consul of the United States.

ROSARIO, ARGENTINA, *June 12, 1904.*

(From United States Vice-Consul Walker, Buenos Aires, Argentina.)

CLIMATE, SOIL, ETC.

The only district in Argentina which produces yerba maté, or Paraguay tea, is the territory of Misiones, in the extreme northeastern part of the country. In nearly all the known sections of this territory the yerba plant is found growing wild, and it is supposed to be equally abundant in the unexplored regions.

The few settlements and the scattered farms and ranches of the whites in Misiones are chiefly along the banks of the border rivers, the Alta Parana and the Alta Uruguay, or not distant from them. Almost the only exceptions of any consequence are the hamlets of San Pedro, with 560 inhabitants, the center of the most important yerba plantations of the interior of the territory and also of an extensive pine-forest region, and Campo Grande, having 290 inhabitants, the center of yerba plantations and of a valuable timber district. Small Indian settlements dot the territory, but many of them have never been visited by a white man, as, aside from the regions around the hamlets above named, the interior is unknown, few persons having ever penetrated its dense forests of thorny trees and shrubs.

The rains are usually torrential. More than three-fourths of the time there is bright sunshine. Terrific electrical storms occur with considerable frequency throughout the year. Much of the soil of the inhabited districts is sandy, frequently very sandy, although there are a few localities where clay or heavy loam soils predominate. Analyses made of more than thirty samples of soil from various settlements show the following general results:

Analyses of soil in the Argentine maté country.

Percentage.	Sand.	Gravel.	Humus.	Clay.	Nitrogen.	Potash.	Lime.	Phosphorus.
Maximum	89.5	15.0	27.0	40.9	8.9	2.2	40.9	10.1
Minimum	44.8	0.0	1.5	1.9	0.0	0.01	0.01	0.3
Mean	64.3	1.0	6.9	18.0	2.4	0.7	4.6	1.5

VARIETIES.

In all places where the yerba plant grows best the soil contains a considerable quantity of moisture. The wild plant is most luxurious in the damp lands of the valleys, although it is found in abundance on higher and drier ground. It requires a well-drained soil and subsoil, yet plenty of moisture must be within easy reach of the roots.

The Misiones yerba plant is a shrub or small tree, which, wild in the forests, may attain a height of 20 or 22 feet, although it generally does not exceed 17 or 18 feet. In plantations the height is likely to be not more than 14 or 15 feet if the plant is not "topped," but the grower aims to "head it in" to 9 or 10 feet for ease in gathering the crop and to force a constant new growth of shoots and tender leaves.

There are at least three varieties of the Misiones yerba:

1. Yerba morada, having violet-tinted dark-green oval leaves, 6 to 8 inches long and 3 to 5 broad. This plant produces a very bitter and inferior yerba.

2. Yerba blanca, distinguished by a whitish dark-green leaf about half the size of the leaf of morada. This also gives a low-grade

product, yet it, like morada, is extensively used to adulterate the "amarilla."

3. Yerba caa-mi or amarilla, the leaf of which has a slightly yellowish hue. It is from 1½ to 2¾ inches long. This supplies the best of the native yerbas, yet even it is much surpassed in quality by some varieties of the Paraguayan and Brazilian plantations.

The leaves are perennial, rather thick and coriaceous, with strong midribs. The trunk and branches have a somewhat velvety appearance, due to a fine fuzzy growth on the bark. The flowers are small, white, and four-parted. The fruit is red, about the size of a grain of pepper, and contains four very hard-coated seeds.

PROPAGATION.

Yerba may be propagated from the seed or by layering. The roots of trees which chance to die about the ground, and frequently those alive, send up numerous shoots, which are sometimes used for putting out in the plantations. In some cases the old trees are girdled, and when the new shoots are well started they are cut out. Propagation by seeds, however, is generally preferred, but owing to the excessively hard shell which incases the seed some means of aiding germination is employed. The commonest is to soak the seeds in a strong solution of lye for twenty to twenty-four hours.

The seeds should be planted in close rows in a suitable bed where they can be given the necessary attention and be protected from injury. When the young plants are 6 or 8 inches high they are transplanted into larger beds, where the rows may be 18 or 20 inches apart, and the plants 12 or 14 inches from each other. At two years of age they should again be transplanted, this time to the final position in the grove or plantation. Here the rows are 10 or 20 feet apart, and the plants about the same distance from one another in the row. However, in many instances the seeds are planted where the trees are to stand or the first transplanting is made directly to the permanent plantation. If the young plants are not transplanted it is said that they do not become as good mature plants as they do when this method is followed. It is necessary to protect both the young plants and the mature trees from the strong direct rays of the sun. Artificial shade of some kind is provided for the young plants, and other trees of taller growth, frequently palms, are used for this purpose in the plantation.

CULTIVATION AND HARVESTING.

There are very few places, indeed, where any kind of cultivation whatever is given, although in the few instances where it is practiced, even to a slight degree, the advantages are apparent. Generally the planter is indifferent about matters of this kind, as he gets a crop anyway, without the bother of extra work. As there is no definite system

of cultivation, it can only be said, in a general way, that the proper care of the plant at all times appears to improve the quality of the crop as well as to increase the quantity. There is little doubt but that the determination of the best methods of cultivation would result in very marked improvements, and probably a decided gain in profits.

The harvest consists of leaves and small twigs. When the plants are four or five years old the first crop, a small one, may be gathered, care being exercised not to remove more than about one-fifth or one-fourth of the leaves on each tree. At six or seven years of age the crop attained from each plant may be from 60 to 80 pounds of the uncured leaves and branches together. A little more than this, perhaps 90 or 100 pounds, may be gathered as the tree further matures. The twigs, and even some good-sized branches, are included in the harvest, because the crop can be so much more quickly gathered than where the leaves only are picked. The woody parts impair the quality, as the best yerba is made from selected leaves only. Such yerba, however, is not to be found in the general market, as its cost is several times more than even the best now to be found or procured in the stores.

It is supposed, though not definitely known, that the plants attain their prime at eighteen or twenty years of age, and that after another ten or fifteen years they are deteriorated to such an extent that it is well to replace them by new trees. The management of the plantations is most primitive, and scarcely any of the planters give attention to improvement of any kind. It is quite enough for them that they have a few trees to produce the crop; nothing further is thought to be necessary, if it is not considered to be flying directly in the face of Providence. One hears various legends concerning the curse invoked on the yerba plant by the Jesuits when they were forced to abandon their rich lands and populous Indian villages in the Misiones country. It is said that they put such a ban upon the yerba tree that any effort to cultivate it since their banishment results in failure, the trees being sure to die when any attempt is made to do anything with them except to take the crop from them in the wild state. Many of the superstitious firmly believe that the only hope of success is to leave the plants just as nature produces them, bad luck attending even the planting of the seed.

PREPARING CROP FOR MARKET.

A crop is taken from each plant every three or four years, the period of harvesting lasting from about the first of March to the last of July. The picking is done by children and women, as well as by the common laborer. Many of the pickers are Indians. The cost of labor is very low, usually no more than 15 to 30 cents a day. As the leaves and twigs are gathered they are carried to the drying or cur-

ing place, a kind of loose, low platform, where they are subjected to gentle heat. When they are dry enough to pulverize readily they are put in a heap in a shed, or otherwise protected from the weather, where they are tramped and pounded until both leaves and twigs are well broken up. In this coarse state the material is called yerba canchada. Decided improvements could be easily and cheaply made in the methods of curing the leaves and in preparing the canchada. Under present conditions smoke and dirt of all kinds are accompaniments of the processes, while the open-air curing causes a loss of strength and a modification of flavor. But in this, as in every other feature of the handling of the crop, the planter seems to be quite content to leave matters as they now stand.

The yerba canchada is put up in bags, usually made of untanned cow or horse hides, and sent to the centers of trade for the final processes of manufacture. From all the interior points of the territory, and even from many places not far distant from the rivers, the yerba canchada is transported by pack trains of mules and horses to the ports where it is put on board the river craft, steamer, or sailboat, to be taken to its final destination, usually Buenos Aires.

The next step in the process of manufacture is to grind or pulverize still finer the yerba canchada. This operation is sometimes done by means of a large mortar and pestle, but generally the trituration is accomplished in a hand or power mill, consisting of a heavy wheel rolling in a kind of circular trough, in which the canchada is placed and reduced to a fine powder.

It will be observed that in the finished product there are numerous coarse pieces of twigs and sometimes of leaves. That these are not also ground to powder is due to a lack of care in the process, and they detract from the market value of the yerba.

W. F. WALKER, *Vice-Consul.*

BUENOS AIRES, ARGENTINA, *August 16, 1904.*

YERBA MATÉ IN BRAZIL.

(From United States Consul Johnson, Santos, Brazil.)

The yerba maté is a tree usually about the size of the orange tree, but frequently much higher, although its boughs are slenderer. It sometimes grows to a height of 20 feet, the trunk measuring over 3 feet in circumference. The principal yerba maté lands are situated in the remote country districts, and the yerbateros or maté gatherers are obliged to make a long trip across the country before reaching the forests. The picking, drying, and packing were formerly performed on the ground, but since the perfection of machinery suitable for the process of drying and packing this work has been done principally in large mills, to which the product of entire districts is taken.

It is said that more than 20,000,000 people in South America drink

maté daily, and find it much better than tea or coffee, having none of the deleterious effects of these drinks even when taken to excess, but, on the contrary, promoting digestion, soothing the nerves, and giving immediate activity to the brain. According to high authority, it is the only beverage which leaves absolutely no bad after effects upon those who drink it in either large or small quantities. As a safeguard against insomnia it is highly spoken of, and in those countries where it is a constant beverage such affections as gout and indigestion are unknown. It is especially beneficial to those of sedentary habits and to brain workers, who find the use of coffee or tea harmful to the nervous system.

The amount of maté used in preparing the drink varies according to individual taste. An ounce of the yerba to a quart of water is generally the proportion used, the tea being strained and ready for use after steeping ten or fifteen minutes. It is sweetened to taste. Iron utensils should be avoided, as they give a dark color to the beverage.

A chemist of world-wide reputation, in London, says: "Yerba maté tea must be considered a most valuable beverage. It is especially beneficial to the stomach and nerves. It has great sustaining powers, but does not irritate. Its effect is soothing and quieting, with no deleterious consequences of any kind. Maté may be freely drunk after it has stood forty-eight hours, without any unpleasant disturbances, even in strong solution. It remains just as healthful as when freshly made."

Mr. William L. Withers, of Curityba, Parana, in which State the bulk of all the yerba maté grows, has written me regarding it substantially as follows:

The tree and its habitat.—The technical name of yerba maté is Ilex paraguayensis. It is a tree, the leaf of which resembles the laurel leaf in appearance. It makes a very hygienic and tonic drink, having all the good qualities of tea without the excess of tannin. It can be made by infusion, like ordinary tea, but the largest leaves only should be used, as the dust stops up the strainer or spout. The maté tree grows wild all over this State, on the high plateau, and in Paraguay, and the southeastern part of Matto Grosso. It will not grow here at a lower elevation above the sea than about 1,500 feet, and the best maté comes from districts between 2,000 and 2,800 feet above sea level. Where pine trees grow, of which we have immense quantities in this State, maté also grows. Where it is too warm for pine trees, as in the lower lying lands toward the Parana and Johy and Tibagy, there is no maté.

Cultivation.—Maté is not cultivated, though a good deal of work is done in clearing the undergrowth and other trees which crowd it. It was formerly believed impossible of cultivation, as the little seeds are very hard coated and do not readily germinate. The process is, apparently, by passing through the intestines of small birds, which swallow the seed, and the acids or heat cause them to germinate; and of course the birds spread them everywhere. They can be made to

germinate by building small fires on the ground where the seed has been planted; but this has not been largely done, as the natural supply seems to be inexhaustible, being limited only by the cost of transportation. There are large tracts of country literally covered with untouched maté trees, being too far away from market for profitable working.

Gathering and curing.—Virgin maté, that is, maté which has never been cut, gives a great deal of trouble and very little profit. The first cutting is regarded as superior to any subsequent cutting, but the clearing of the undergrowth and small trees is both troublesome and expensive. The maté is left for four years after cutting before it is cut again. The men go into the woods armed with machetes and slash off all the small branches, so that not a leaf is left upon the stump—nothing remains but the large limbs and the trunk. Then the branches are passed through the flames of a bright fire until the leaf dries to a certain point. This is done very rapidly, and it is important to have it done as quickly as possible after cutting, as it fixes the valuable constituents in the leaf. The material is then taken to the carijo or barbagua for thorough drying by fire. The process is difficult of explanation. It requires some skill, especially the barbagua process, by which the leaves and twigs are dried in a sort of oven with a man inside moving them about until the right point is reached. In the carijo process the maté is hung over open fires, under some sort of roof, generally thatch, but it is said that the maté cured in this way has a smoky flavor. Before the drying the larger sticks are removed, leaving only the leaves and the small twigs. After being dried the maté is broken up. Packed in jute bags, it is sent off to the maté mills or engenhos, really packing establishments, where it is pounded or cut to the sizes and grades required by customers in different localities. Some prefer it pounded almost to a powder, with plenty of twigs in it (the twigs are very good, either mixed with the leaves or in infusion alone); others prefer only leaves of different sizes. Then it is packed in barrels of pine wood and labeled, and is ready for shipment. Some is packed in serroes (hide bags) for the remote districts of Argentina, as it stands the long journey and retains its aroma better than in barrels. A great deal of the maté, through imperfect curing, dampness, etc., is reroasted at the engenhos in revolving cylinders. This, however, would not be necessary were the curing properly done in the woods.

Market prices.—The market price at present is considered very low indeed. It is 2.3 milreis[a] (53 cents) per arroba of 32 pounds at rail head in Ponta Grossa, and, of course, farther inland the price decreases, so that at the remotest places where maté is prepared the seller receives only 800 reis (18.4 cents) per arroba. These prices do not include the sack, which belong to the engenhos, and are sent out by them. This brings the price at the coast to a little over 3 milreis per arroba plus cost of preparation, packing, and barrels. There is an export duty of 700 reis (16.1 cents) per arroba, which makes the price f. o. b. Paranagua or Antonina about 4.50 milreis ($1.04) per arroba, or for the finest quality, 5 milries ($1.15).

Exports.—The amount exported in the fiscal year ended June 30, 1903, was in round numbers 26,000 tons, and this year it is already known that the exports will be greater by several thousand tons.

[a] The paper milreis is constantly fluctuating. At the time of Consul Johnson's report it was valued at about 25 cents, at which value the reductions were made.

These amounts are only those on which duties were paid, and which were exported through the ports of Antonina and Paranagua. Besides there was a certain amount exported by the Fozde Iguassú. Although maté does not grow within 60 miles of the Parana, there are certain parties cutting inland. There is also a very large quantity of maté cut in this State which is shipped through San Francisco, State of Santa Catharina, also the greater part of the so-called Rio Grande maté is from the Campo Pre district of this State.

The exports of maté are principally to Argentina and Uruguay. Of the 26,000 tons exported from this State, Argentina took about 19,000, and the bulk of the remainder went to Uruguay; some went to Chile, and some to the north of Brazil and Europe.

Soil.—Like pines, maté trees do best in poor dry soil. Maté lands are, as a rule, valueless for cultivation. The following shows how easily maté grows under favorable conditions. There was a large bamboo canebrake in a place near Rio Claro without trees of any kind. A few years ago, when the bamboo was seeding and dry, the owner set fire to the brake. The heat of the fire caused the maté seed which the birds had carried there to germinate, and to-day the place is a forest of maté trees about 20 to 30 feet high.

Harvesting season.—The season for cutting maté is in May, after the first winter frosts, up to the beginning of sprouting of new shoots in early summer. Some people commence cutting in January, but the maté is not considered good. Those who understand the nature of the yerba maté tree best say that cutting before April is entirely wrong, as the trees are left in such a condition (the sap being up) that many of them are killed by the first heavy frost. In any case, after the cutting begins, it goes on until spring or early summer. Young leaves are useless, for they turn black when dried, while the maté required by the Argentinian is green. The cutting terminates in September or October, depending upon the weather.

I have no doubt that yerba maté would grow and do well in many localities in the southern part of the United States. It is very evident that the yerba maté industry is growing rapidly, and will eventually find its way to the north and west, and may even penetrate the Orient, the home of its Chinese rival.

J. H. JOHNSON, *Consul.*

SANTOS, BRAZIL, *July 8, 1904.*

YERBA MATÉ IN PARAGUAY.

(*From United States Consul Ruffin, Asuncion, Paraguay.*)

Yerba maté grows very abundantly in Paraguay, and furnishes one of the chief exports of the country. It is also extensively used by the natives. At maturity the tree reaches the height of an orange or magnolia tree.

There are different ideas about the cultivation of yerba, but I inclose a circular issued by a Paraguayan newspaper and circulated among its subscribers about three years ago, and which reads as follows: "Steep the seed, preferably in autumn, in warm water for four days, chang-

ing the water every twelve hours. After the fourth day pass the seed through the fingers firmly, so as to separate the capsules that contain the seed, which are three in number. Plant immediately afterwards in small beds containing one-third fine sand, one-third fine black earth, and one-third crushed manure. Cover the seeds with about 2 inches of this mixture, and keep the earth a little damp. After six months germination will commence, although it sometimes takes a year." In the botanical gardens at Buenos Aires satisfactory results have, I understand, been obtained by placing the seeds for a period of ten hours in water heated to 40° Celsius, afterwards placing them in the shade for two or three days, then planting them in hotbeds. People of practical experience inform me that it is best to plant the seed on the declivities of hills or beside rivers where there is considerable moisture, and to place the seeds in beds partly shaded by trees—not, however, trees with thick foliage, because they shade the ground too much. Germination takes place in about six months.

After the plant is two years old it is transplanted, and about six to eight years afterwards it is fit for harvesting. Before that time it is said the leaves are not sufficiently seasoned to give a good flavor. Four years must elapse before a second cutting. No special skill is required in the work, as the most ordinary labor in the country is employed, the men receiving 20 cents gold per day and the women 15, including food. The kind of soil best adapted to its growth is black earth in the proximity of hills and on the borders of rivers. In this country most of the yerba is found in the lowlands near rivers, where a kind of vapor arises which later on in the day is dispelled by the sun.

The market price to the dealer, f. o. b. Asuncion, is about $1.60 Paraguayan money, or 18 cents gold, per kilo (2.2 pounds). Maté for export is usually closely packed in bags, so as to conserve its flavor, or in barrels containing the same amount, viz, 20 kilos (42 pounds).

The amount exported by the company, La Industrial Paraguaya, last year was 3,200,000 kilos (7,052,800 pounds), and that exported by another company, called Maté Langeira, from the southern section, was 2,870,000 kilos (6,328,202 pounds), and from the northern section somewhat less. La Industrial Paraguaya is the only Paraguayan company exporting the Paraguayan maté on a large scale, the other company being Brazilian, and having its yerbales in Brazil. Besides owning very large tracts of tea lands the Paraguayan company has gone into planting on a large scale. The total sales of the company in the year just passed amounted to 4,267,712 kilos (10,508,598 pounds). This company informed me that it would be pleased to take up the matter of export to the United States with any serious establishment there, and has intrusted a shipment to me to be distributed gratis during my early visit to the United States.

J. N. RUFFIN, *Consul.*

ASUNCION, PARAGUAY, *June 7, 1904.*

HOURS OF LABOR IN EUROPEAN SHIPYARDS.

On October 3, 1904, the following circular was addressed to the consular officers of the United States in France, Germany, and the United Kingdom:

You are instructed to make a report relative to the daily and weekly hours of labor in shipbuilding plants in your consular district, to be used in connection with a report called for by the Committee on Labor of the House of Representatives.

The following reports are the replies to the circular from the consular officers in whose districts shipbuilding is carried on.

FRANCE.

BORDEAUX.

After April 1, 1905, the hours of labor per day will be 12 in the following cases: (*a*) In all factories using any form of inanimate power and employing only men of 18 years of age and over; (*b*) in all factories employing more than 20 men aged 18 years or more, and no women and children.

In all factories employing less than 20 laborers, where no inanimate power is used and where only males over 18 years of age are employed, the hours of labor per day are unlimited.

Children, girls under 21 years of age, and women are allowed to work in factories only 6 days in a week. The rest day need not be Sunday and all the employees of any factory need not rest on the same day of the week.

Men above 18 years of age may work on Sunday or any and all days of the week, at their pleasure.

The foregoing provisions cover labor in shipyards.

ALBION W. TOURGÉE, *Consul.*

BORDEAUX, FRANCE, *November 21, 1904.*

HAVRE AND CHERBOURG.

In the engine and boiler construction shops the working day is 10 hours each day, except Sundays, the year round, or 60 hours per week. The day is divided as follows: Morning, 6 to 11.30 a. m.; afternoon, 1 to 6 p. m.

Although the daily hours of labor in the shipbuilding department are divided, as is shown in the following table, the workmen are paid as if they had worked a full day of 10 hours:

Working hours in the shipbuilding plant of the Forges et Chantiers de la Méditerranée, Havre, France.

Date.	Morning to noon.	Afternoon.	Actual working time.
			Hrs. min.
October 10	7	1 to 5.45	9 45
October 17	7	1 to 5.35	9 35
October 24	7	1 to 5.25	9 25
October 30	7	1 to 5.15	9 15
November 5	7	1 to 5.08	9 08
November 10	7	1 to 5.00	9 00
November 15	7	1 to 4.52	8 52
November 20	7.10	1 to 4.45	8 35
November 30	7.20	1 to 4.40	8 20
December 10	7.30	1 to 4.40	8 10
December 20	7.30	1 to 4.40	8 10
December 30	7.30	1 to 4.40	8 10
January 10	7.30	1 to 4.50	8 20
January 20	7.20	1 to 5.05	8 45
January 30	7.10	1 to 5.20	9 10
February 10	7	1 to 5.40	9 40
February 20	7	1 to 6.00	10 00

From February 20 to October 9 the working day is from 7 a m to noon and from 1 to 6 p. m.

In the mechanical and torpedo boat construction departments of the works of Augustin Normand & Co., of Havre, the length of the working day is 10 hours every day, except Sundays, the year round. The working hours are from 6.30 a. m. to noon and from 1.30 to 6 p. m. In other smaller private shipyards of Havre the working hours are from 7 a. m. to noon and from 1.30 to 6 p. m., making the day 9½ hours and the week 57 hours, although the men are paid as if they had worked 10 hours daily, or 60 hours per week.

CHERBOURG.

In the Government navy-yard the hours of labor in summer, every day except Sunday, are from 7.30 to 11.30 a. m. and from 1.30 to 5.30 p. m. In winter the working hours are from 7.30 to 11.30 a. m. and from 1 to 5 p. m. In other words, the working day consists of 8 hours winter and summer.

In the private shipyards of Cherbourg the working hours, 6 days a week, all the year round are from 7 a. m. to noon and from 1.30 to 6 p. m., or 9½ hours per day, or 57 hours per week.

A. M. THACKARA, *Consul.*

HAVRE, FRANCE, *November 3, 1904.*

LYON.

There are only two shipbuilding plants in this city; they are occupied in building and repairing boats for the Saône and Rhône. The hours of labor are 10 hours per day in summer, 8½ and 9 in autumn, and 8 hours in winter, 6 days per week. No work is done on Easter, Pentecost, and the first Monday after each, nor on Christmas, New Year, All Saints Day, and the Fourteenth of July.

Laborers are paid 5 to 6 francs (96½ cents to $1.16) per day. Skilled mechanics receive 160 francs ($30.88) per month; boys from 14 to 16 years, 38.6 to 48 cents per day.

JOHN C. COVERT, *Consul.*

LYON, FRANCE, *October 21, 1904.*

MARSEILLE.

Nine and one-half hours' work is required of the employees of the Government arsenal at Toulon. The time schedule is complicated, the hour at which work begins varying from 5 to 15 minutes every 10 days, according to the calendar. The workday begins at from 5.55 a. m. to 7.10 a. m. There is a cessation of labor of 45 minutes at noon for lunch.

At the works of the Société des Forges et Chantiers de la Seyne, near Toulon, the summer workday consists of 11 hours, beginning at 5.30 a. m. and ceasing at 6 p. m., with 1½ hours at noon for lunch. The winter workday consists of 9¾ hours, beginning at 6.30 a. m. and terminating at 5.30 p. m., with an interval of 1¼ hours for lunch.

At the shipbuilding plant of the Compagnie des Messageries Maritimes, at La Ciotat, a 9-hour workday has been adopted, or 54 hours per week.

At the plant of the Compagnie Française de Navigation et de Constructions Navales, at Arles sur Rhône, a 10-hour workday has been adopted, or 60 hours per week.

At the Chantiers et Ateliers de Provence, in Marseille, 10 hours per day and 60 hours per week is the rule. Mechanics working beyond the limits of the plant or upon ships being repaired in the port have a 9-hour workday. The shipbuilding plant of this company has buildings at Port de Bouc, where the average workday is 10 hours, the schedule being so arranged that a minimum of 9 hours constitutes the winter workday and a maximum of 11 hours the summer workday.

At the plant of the Société Anonyme des Forges et Chantiers de la Méditerranée, at Marseille, mechanics work 10 hours per day, with a recess of 1½ hours in summer and 1 hour in winter for lunch.

ROBERT P. SKINNER, *Consul-General.*

MARSEILLE, FRANCE, *October 31, 1904.*

NANTES, ST. NAZAIRE, LORIENT, AND BREST.

NANTES.

The day's work in the several shipbuilding plants at Nantes is generally 10 hours, except during November, December, January, and February, when it is 9 hours. The only regular days of rest are Sundays and national holidays. In some of the yards work begins at 7 a. m. and continues till 11, when there is 1½ hours for the midday meal. Work is resumed at 12.30 and continued until 6.30 p. m. These hours, however, are not the same in all the yards. Work begins in some at 6.30 a. m. and continues until 11, with 1½ hours for the noonday meal; beginning again at 12.30, work continues until 6 p. m. Other yards, again, begin at 6 a. m. and work until 11, with the usual recess of 1½ hours at midday; beginning again at 12.30, work is continued until 5 p. m. In still other yards work begins at 7 a. m. and continues until 11, with 1 hour for dinner; resuming at 12, work is continued until 5 p. m.

In short, in the shipyards at Nantes there is no ironclad or general rule as to the hours of work, except that, in a general way under ordinary conditions, the rule is 10 hours' work per day and 60 hours' work per week during 8 months of the year, and 9 hours' work per day and 54 hours per week during the other 4 months, viz, November, December, January, and February. The hours are divided as follows: From 7 to 11 a. m. and 12 to 5 p. m. in winter; 6.30 to 11 a. m. and 12.30 to 6 p. m. in summer.

ST. NAZAIRE.

Ten hours' work is generally the rule at St. Nazaire, except during the four months of winter, when, owing to the difficulty of lighting the plants satisfactorily, the men work only 9 hours. In December, January, February, and March the hours are from 7 to 11 a. m. and from 12.30 to 5 p. m.; during all the other months from 6.30 to 11.30 a. m. and from 1 to 6 p. m. The only days of rest are Sundays and national legal holidays.

LORIENT AND BREST.

The shipbuilding yards of Lorient and Brest belong to the Government. The workmen employed do 8 hours' work a day, viz, 7.30 to 11.30 a. m. and 1.30 to 5.30 p. m. in summer; 8 to 12 a. m. and 1 to 5 p. m. in winter. The office clerks work 7 hours. The principle of 8 hours' work is of quite recent application, and it appears to give good results.

BENJ. H. RIDGELY, *Consul.*

NANTES, FRANCE, *October 31, 1904.*

ROUEN.

The daily and weekly hours of labor in the shipbuilding plant, Chantiers de Normandy, are from 6 a. m. until 6 p. m., with 1½ hours

intermission at noon, making 10½ hours daily and 63 hours weekly. The hours of labor are the same at Dieppe.

THORNWELL HAYNES, *Consul.*

ROUEN, FRANCE, *November 30, 1904.*

GERMANY.

BREMEN, VEGESACK, AND BREMERHAVEN-GEESTEMÜNDE.

In the shipyards at Bremen, Vegesack, and Bremerhaven-Geestemünde the hours of labor are as follows: In summer, 60 hours per week, viz, 10 hours per day, 6 a. m. to 6 p. m., with 2 hours for lunch and dinner; in winter, 57 hours per week, viz, 9½ hours per day, from 7 a. m. to 6 p. m., with 1½ hours for lunch and dinner.

HENRY W. DIEDERICH, *Consul.*

BREMEN, GERMANY, *October 27, 1904.*

DRESDEN.

The only important shipbuilding yard in this consular district is the Kette, Deutsche Elbschiffahrts Gesellschaft, Schiffswerft Uebigau, near Dresden, where steamers and barges are constructed for the commerce on the river Elbe. The hours of labor are 7 a. m. to 12 m., with 30 minutes for lunch; 1 to 7 p. m., with 30 minutes for afternoon coffee: 10 hours per day, 60 hours per week.

CHARLES L. COLE, *Consul-General.*

DRESDEN, GERMANY, *October 21, 1904.*

HAMBURG.

There are in this consular district eleven prominent shipbuilding plants, viz:

Hamburg.—Blohm & Voss; Reiherstieg-Schiffswerfte und Maschinenfabrik; Heinrich Brandenburg; Schiffswerfte und Maschinenfabrik (vorm. Janssen & Schmilinsky) Actiengesellschaft; H. C. Stülcken Sohn.

Kiel.—Friedr. Krupp Actiengesellschaft, Germaniawerft; Howaldtswerke.

Flensburg.—Flensburger Schiffsbaugesellschaft.

Tönning.—Schömer & Jensen.

Lubeck.—Henry Koch.

Rostock.—Actiengesellschaft "Neptun," Schiffswerft und Maschinenfabrik.

In all of these establishments the time of daily labor is 10 hours—60 hours per week. Labor performed outside of the workshop,

such as ship carpenters' work, is generally shortened half an hour or an hour in winter on account of want of light, making the average time of labor 9 to 9½ hours per day, or 54 to 57 hours per week. The time of labor varies from 6 a. m. to 5.30 or 6 p. m., including 1½ or 2 hours intervals for meals.

In case of rush of business or pressing repair work, overtime or night work is occasionally required, but there are no fixed regulations provided for such emergencies. In such event some laborers work 75 to 80 hours per week.

HUGH PITCAIRN, *Consul-General.*

HAMBURG, GERMANY, *November 2, 1904.*

MAINZ.

In the shipbuilding plants of this district 10 hours constitute a day's labor. During the summer months, from March to November, the day is divided as follows: From 6.30 to 8.30 a. m., working time; 8.30 to 9 a. m., morning intermission; 9 a. m. to 12 m., working time; 12 m. to 1 p. m., dinner time; 1 to 4 p. m., working time; 4 to 4.30 p. m., afternoon intermission; 4.30 to 6.30 p. m., working time.

During the winter months, from November to March, the working day begins at 7 a. m. and ends at 6.30 p. m., the morning and afternoon intermission being cut down to 15 minutes each.

WALTER SCHUMANN, *Consul.*

MAINZ, GERMANY, *December 19, 1904.*

STETTIN AND DANZIG.

STETTIN.

In the "Vulcan" shipyards, the largest concern of its kind in Germany, the working day is as follows: From 7 a. m. to 12 noon; 1½ hours for dinner; and from 1.30 to 7 p. m. Each morning and afternoon an extra pause of 10 minutes is allowed for lunch. These hours of labor hold good for the whole year and apply to those engaged by the week. Laborers doing piecework, that is, on the slips or docks, and not under cover, work from October 15 to April 1 about 1½ hours per day less than their fellow-laborers working under cover. During the summer months the situation is reversed in the open, the men working as high as 15 hours per day.

At the "Oderwerke," from April 1 to October 15, 11 hours per day; from October 15 to April 1, 10 hours per day. As to piecework, the same conditions prevail as at the "Vulcan."

DANZIG.

The consular agent at Danzig makes the following report as to the working hours at the imperial navy-yard:

Hours of labor at the imperial shipyards at Danzig, Germany.

Dates.	Hours.	
	A. M.	P. M.
October 2 to 15	7	5.30
October 16 to November 12	7	4.30
November 13 to January 7	8	4.30
January 8 to 21	8	5.30
January 22 to February 18	7	5.30
February 19 to March 31	7	6.30
April 1 to October 1	7	6.30

He further states that the private shipbuilding plants have almost the same hours, but only 1 hour lunch time, i. e., from 12 to 1 o'clock.

JOHN E. KEHL, *Consul.*

STETTIN, GERMANY, *October 25, 1904.*

UNITED KINGDOM.

BELFAST.

In this consular district all trades in connection with shipbuilding and engineering works labor 54 hours per week. The hours are made up as follows: On the first five days of the week the men work from 6.05 to 8.20 a. m.; from 9 a. m. to 1 p. m.; from 2 to 5.30 p. m.; on Saturday from 6.05 to 8.20 a. m.; from 9 a. m. to 12 noon.

EDWARD HARVEY, *Vice and Deputy Consul.*

BELFAST, IRELAND, *October 20, 1904.*

BRISTOL.

The hours for all classes of labor in connection with the building of ships in Bristol are either 53 or 54 per week.

From March 1 to October 30 the daily hours are from 6 a. m. to 5 p. m. In November and February the hours are from 7 a. m. to 5 p. m. In December and January the hours of the skilled shipwrights are from 7.30 a. m. to 4.30 p. m.

At all times of the year one-half hour is allowed for breakfast and 1 hour for dinner. Work is stopped at 1 o'clock on Saturdays in ordinary shop work and at 12 o'clock on ships' work and what are technically called "marine jobs." In the two short months of the year the total weekly hours will not quite average 53.

Wages for shipwrights at present are 36 shillings ($8.74) per week; for fitters on ordinary work in the shops, 38 shillings ($9.22); on

marine work, 41 shillings ($9.97); for boiler makers, new work, 14 cents per hour; old work, 16 cents per hour, and for laborers, 10 cents per hour.

BRISTOL TRADE RULES.

I have before me the by-laws of the Bristol district boiler makers (members of the Iron and Steel Shipbuilders' Society), from which I quote the following:

Hours of labor.—The ordinary working week shall consist of 54 hours, viz, 9½ hours per day for the first 5 days of the week and 6½ hours on Saturdays during the summer months; 8½ hours per day for the first 5 days of the week and 5½ hours on Saturdays during the winter months, for which 54 hours shall, however, be paid.

The recognized working hours from March 1 to October 31 shall be from 6 a. m. to 5 p. m., with one-half hour for breakfast and 1 hour for dinner, for the first 5 days of the week, and from 6 a. m. to 1 p. m. on Saturdays, with one-half hour for breakfast. From November 1 to February 28, workmen shall book on at 7 a. m. and finish at 5 p. m. for the first 5 days of the week and 1 p. m. on Saturdays, with the usual stoppage for meals. Men engaged upon the repairs of boilers or connections therewith when the vessel is lying in the river or floating dock, shall commence work at 7 a. m. all the year round, except in cases where the firm has a repairing berth immediately abutting their yard.

Tide work and work in the roads.—Workmen required to go on jobs that are commonly known as tide work shall be paid at the rate of 1 full day for each tide or part thereof during the day, and 1½ days for each tide during the night.

When men are engaged on stranded or sunken vessels, or working on other vessels in the roads they will be paid 12s. 6d. ($3.03) per day from the time of their leaving the shop until their return.

Overtime.—For the first 4 hours worked after 5 p. m., time and a half, and double time for all hours worked afterwards until starting time next morning; any time worked from 1 p. m. Saturdays until 6 a. m. Mondays to be paid double time.

Men required to work more than half a day overtime shall be allowed 1 hour for tea, and if engaged for the whole night, 2½ hours more, with 1 hour for breakfast next morning. Thus: 5 to 6 p. m., 9 to 10 p. m., 1 to 2 a. m., 5.30 to 6 a. m., and 8 to 9 a. m. No deduction of time or pay is to be made in consequence of the extra time allowed for breakfast.

Men working overtime, being stopped after 12 o'clock midnight or sent home by order of any of the company's officials, shall receive a full night's pay.

No member of this society shall work more than 18 hours as overtime in addition to the usual working days between Monday 6 a. m. and Saturday 1 p. m. in any one week while competent men are idle in the port, except on finishing jobs which can be completed in not exceeding 3 hours' labor.

Christmas Day, Good Friday, or any national holiday to be paid for at the rate of double time. Easter Monday, Whit Monday, and the first Monday in August to be paid for at the rate of time and a half.

Allowances.—When workmen are sent to do jobs in the ballast tanks or under engines and boilers of vessels or in main funnels they shall receive a quarter day's pay in addition to their ordinary rates for each day as compensation for the very laborious and dirty nature of the work. This clause not to apply when men are being paid at the higher rates named for Avonmouth and Portishead. When men are sent from home by their employers they will be entitled to railway fare and 2 shillings (49 cents) per day to bear the extra cost of living from home.

Injury to employers.—Should any employer be injured in his business or calling through the misconduct of any member or members of this society, or that he, or his manager, or foreman, be subjected by any of them to verbal abuse in reference to wages, or any misunderstanding or unpleasantness that may have occurred in the works, and the same be proven to the satisfaction of the district committee or branch committee, such offending member or members shall be fined in any sum not exceeding 50 shillings ($12.17).

No alterations in or variations from this agreement are to be made by either party without 3 months' notice.

LORIN A. LATHROP, *Consul.*

BRISTOL, ENGLAND, *November 15, 1904.*

CORK.

The working hours in this port, at the private dockyards at Passage West and Rushbrooke, are 9 hours a day, 54 hours per week. Any extra hours are paid for at double rates as overtime. Work commences at 7 a. m. and ends at 6 p. m. all the year round. There is a cessation of work from 9 to 9.30 a. m. for breakfast and from 1 to 2 p. m. for dinner.

HAWLBOWLINE GOVERNMENT DOCKYARD.

At the Government dockyard, Hawlbowline, the hours are as follows:

The working hours throughout the year are to average 48 weekly. The work people are to be governed in their attendance by the ringing of the bell, to enter and quit the yards at the hours specified in the tables, and to work daily for the number of hours prescribed therein.

The days to be observed as public holidays are the day of the celebration of the birth of the Sovereign, the first Monday in August, Good Friday, and Christmas Day. A public holiday that falls on a Sunday is to be kept on the following day.

Working hours at Hawlbowline yard, Ireland.

Periods of year.	48 average working hours per week.		
	A. M.	P. M.	Hours per day.
January 1 to 15	8.00 to 12.00	12.45 to 4.15	7¼
Saturdays	8.00 to 1.00		5
January 16 to 31	8.00 to 12.00	12.45 to 4.30	7½
Saturdays	8.00 to 1.00		5
February 1 to 29	7.45 to 12.00	12.45 to 5.00	8¼
Saturdays	7.45 to 12.45		5
March 1 to October 18	7.15 to 12.00	12.45 to 5.00	9
Saturdays	7.15 to 12.15		5
October 19 to November 10	7.45 to 12.00	12.45 to 5.00	8¼
Saturdays	7.45 to 12.45		5
November 11 to 30	7.45 to 12.00	12.45 to 4.15	7¼
Saturdays	7.45 to 12.45		5
December 1 to 31	8.00 to 12.00	12.45 to 4.00	7¼
Saturdays	8.00 to 1.00		5

DANIEL SWINEY, *Consul.*

CORK, IRELAND, *October 21, 1904.*

DUBLIN AND LIMERICK.

The hours of work in the only shipbuilding yard in Dublin are from 6 a. m. to 5.30 p. m. in the summer months, and from 7 a. m. to 5.15 p. m. in the winter months, except on Saturdays, when work ceases at 12.30 in summer and at 12.15 in winter. The weekly hours are 54 in summer and 52 in winter, the winter months being from November to March. The times during which the men are at meals are not included in the weekly hours. The hours in force in Limerick are 10 hours a day in summer and 8 hours a day in winter, Saturday considered a half day.

ARTHUR DONN PIATT, *Acting Consul.*

DUBLIN, IRELAND, *October 28, 1904.*

DUNDEE.

The daily working hours in local shipbuilding plants are from 6 a. m. to 5.30 p. m., with intervals of 55 minutes for breakfast and 1 hour for dinner—9 hours and 35 minutes for 5 days in the week, equal to 47 hours and 55 minutes per week. On Saturday the hours are from 6 a. m. to 1 p. m., with 55 minutes breakfast interval, or 6 hours and 5 minutes, making a total of 54 hours for the week. The curtailment of the breakfast hour to 55 minutes enables the works to close on Saturday at 1 o'clock instead of 1.30.

JOHN C. HIGGINS, *Consul.*

DUNDEE, SCOTLAND, *October 31, 1904.*

DUNFERMLINE.

The only shipbuilding yard in this consular district is that of Messrs. Scott, of Kinghorn, on the Firth of Forth, 15 miles by rail from Dunfermline. The hours of labor are as follows: Monday to Friday, inclusive, from 6.30 to 9 a. m.; from 9.30 a. m. to 1.15 p. m., and from 2 to 5.30 p. m. On Saturdays from 6.30 to 9 a. m. and from 9.30 to 12.15 p. m. These are the hours at present, but in summer a slight alteration is made in the adjustment of the hours, leaving the total still at 54 hours per week.

Work begins in summer at 6 a. m. and continues till 5.45 p. m., with an allowance of 45 minutes each for breakfast and dinner. On Saturdays the work is from 6 a. m. till 12 m., with an allowance for breakfast, but every alternate Saturday the men are off work altogether. During very busy seasons overtime is worked, but 54 hours constitute the usual weekly hours of labor, apportioned as above.

J. N. McCUNN, *Consul.*

DUNFERMLINE, SCOTLAND, *November 8 1904.*

EDINBURGH.

The hours of labor in all branches of shipbuilding plants in this district are 9½ hours on each of 5 days of the week and 6½ on Saturday, or 54 hours a week.

RUFUS FLEMING, *Consul.*

EDINBURGH, SCOTLAND, *October 21, 1904.*

FALMOUTH.

There is no firm in my district that builds large vessels. There is, however, one firm at Falmouth (Cox & Co.), iron builders, who, in addition to large works in ship repairing, are noted for their work in small and large tug building. They employ several hundred men and boys. The daily working hours are 9½ and on Saturdays 6½, or 54 hours per week. The rates of wages are lower for fitters and others than in any other port in England, but the builders are handicapped by their distance from the coal fields and iron works of the United Kingdom.

HOWARD FOX, *Consul.*

FALMOUTH, ENGLAND, *December 5, 1904.*

GLASGOW.

The daily and weekly hours of labor in shipbuilding plants in this district (including the districts of Troon and Greenock) are as follows: Monday to Friday, 9¾ hours per day; Saturday, 5¼ hours; total for the week, 54 hours.

In most of the plants these hours are shortened during part of the winter (usually about 4 months), and they then vary according to the

exigencies of trade and the lighting facilities of the premises. In some cases the winter makes no difference, while in others the number of working hours per week may be as low as 35. The usual winter hours may be stated as follows: Monday to Friday, 9¼ hours per day; Saturday, 4¾ hours; total for the week, 51 hours.

The figures given show the hours which prevail generally; in detail they work out as follows: *Summer.*—Monday to Friday, 6 to 9 a. m., 10 a. m. to 1.30 p. m., 2 to 5.15 p. m.; Saturday, 6 to 9 a. m., 9.45 a. m. to 12 noon. *Winter.*—Monday to Friday, 6.45 to 9 a. m., 9.45 a. m. to 1.30 p. m., 2 to 5.15 p. m.; Saturday, 6.45 to 9 a. m., 9.30 to noon.

W. GIBSON, *Vice and Acting Consul.*

GLASGOW, SCOTLAND, *October 28, 1904.*

HULL.

The hours of labor of many of the employees in shipyards vary during the year as the length of the day varies. The short days are much shorter here than in Washington, and the long days much longer. On the shortest day, December 21, the sun rises at 8.05 and sets at 3.51 o'clock, giving 7 hours 46 minutes of sunlight; on the longest day, June 21, the sun rises at 3.44 and sets at 8.18 o'clock, giving 16 hours 34 minutes of sunlight. This great variation in the length of the day naturally affects the hours of labor of those who depend upon natural light.

From March 1 to October 30 all shipyard employees begin work at 6 o'clock in the morning and work until 5 o'clock in the afternoon, with an allowance of half an hour for breakfast and 1 hour for dinner, or 9½ hours a day. On Saturdays the year through all work is suspended at noon, making 53 hours of work a week. These are also the hours of labor of engineers, boiler makers, and all men who work under cover by artificial light throughout the year. But during November and February, shipwrights, ironworkers, and laborers who have to depend upon natural light begin work at 6.30 o'clock in the morning and work until dark, and during December and January begin work at 7 o'clock and work until dark. So the daily and weekly hours of work for this class of employees during these four months is not easily calculable.

WALTER C. HAMM, *Consul.*

HULL, ENGLAND, *November 29, 1904.*

LIVERPOOL.

Among the shipwrights of Liverpool (also boiler makers and iron-ship builders for all work in shipyards and bridge yard and new work on board new ships) the recognized workday is from 6 a. m. until 5 p. m. from March 1 until October 31, both inclusive, with half an

hour for breakfast and an hour for dinner, except on Saturdays, when half an hour is taken for breakfast, work terminating at noon. From November 1 to 15 the working hours are from 7 a. m. to 5 p. m.; from November 16 to 30, 7 a. m. to 4.30 p. m., with half an hour for breakfast and an hour for dinner; during December, from 8 a. m. to 4.30 p. m.; from January 1 to 15, 8 a. m. to 4.30 p. m.; from January 16 to 31, 8 a. m. to 5 p. m., with 1 hour for dinner; during February, from 7 a. m. to 5 p. m., with half an hour for breakfast and 1 hour for dinner. All overtime is paid for at a higher rate of wages.

In boiler shops the recognized working day all the year round is from 6 a. m. until 5 p. m., with half an hour for breakfast and 1 hour for dinner, except on Saturdays, when half an hour is taken for breakfast, work terminating at noon.

All overtime worked in the shipyards, in boiler shops, and on new work on board new ships is paid for at the following rates on the first 5 days of the week, viz: Time and a quarter for the first 2 hours worked, time and a half for the second 2 hours worked, and after that, time and three-quarters for the hours worked to starting time next morning. When men are required to work "night shifts," they commence at 7 p. m., with 1½ hours for meals, until 6 a. m., for which they receive 14 hours' pay. Men are not requested to work on Sundays except in cases of great emergency. When they do work on Sundays, double time is allowed and paid for each hour worked. Work on Christmas Day, Good Friday, and bank holidays is also paid at double rates.

JAMES BOYLE, *Consul.*

LIVERPOOL, ENGLAND, *October 28, 1904.*

LONDON.

The British Board of Trade transmits me a statement showing that 54 hours per week constitute the hours of labor, exclusive of meal times, recognized by certain trades unions of London, viz: Pattern makers, boiler makers and steel ship builders, shipwrights, ship joiners, ship plumbers, and ship painters. This 54-hour week is divided into 9½ hours per day for the first 5 working days, with 6½ hours for Saturday, viz: Monday to Friday, 6 to 8 a. m., 8.30 to 1 p. m., 2 to 5 p. m.; Saturday, 6 to 8 a. m., 8.30 to noon.

At the works, however, of one large firm (Thames Ironworks Company, Limited) the weekly working hours are only 48 per week.

I am in receipt of a statement (inclosure No. 1) from the Thames Ironworks Shipbuilding and Engineering Company (Limited), London, giving the labor rates paid in their shipyard and engine works. The hours are 48 a week, thus: Monday to Friday, 7.30 a. m. to 12 noon; 12.54 to 5 p. m.; Saturday, 7.30 a. m. to 12.30 p. m.

H. CLAY EVANS, *Consul-General.*

LONDON, ENGLAND, *November 2, 1904.*

Daily wages paid by the Thames Ironworks, Shipbuilding and Engineering Company (Limited) (inclosure in Consul-General Evans's report).

Trade.	Wages.	
	English money.	American currency.
IN SHIPYARD.	*s. d.*	
Platers	7 6	$1.82
Angle smiths	7 6	1.82
Frame benders	7 6	1.82
Riveters	6 4	1.54
Calkers	6 4	1.54
Testers	6 4	1.54
Holders-up	5 6	1.34
Chippers	6 4	1.54
Drillers	5 0	1.22
Platers' helpers	4 0	.97
Rivet carrier boys	2 6	.61
Rivet blower boys	1 0	.24
Apprentices	3 0 to 5 6	$0.73 to 1.34
ENGINEERING TRADES.		
Engineers	6 4	1.54
Machinists	6 4	1.54
Machinists, electrical	5 0	1.22
Fitters and turners	6 4	1.54
Brass finishers	6 4	1.54
Patternmakers	7 0	1.70
Ship fitters:		
Shop	6 0	1.46
Ship	6 0	1.46
Planers	5 6	1.34
General smiths	6 8	1.62
Tool smiths	6 8	1.62
Smiths' hammerman	4 8	1.14
Coppersmiths	6 8	1.62
Plumbers	7 0	1.70
Brass foundry	6 8	1.62
Iron foundry	6 8	1.62
Steam hammerman	13 0 to 20 0	3.16 to 4.87
Brass finishers	6 0	1.46
Armature winders	6 4	1.54
Magnet winders	5 0	1.22
Wireman	5 0 to 6 4	1.22 to 1.54
WOOD TRADES.		
Shipwrights	7 0	1.70
Wood calkers	7 0	1.70
Joiners	7 0	1.70
Mold loft	7 0	1.70
Sawmills	6 6	1.58
Mast and block makers	7 0	1.70
MISCELLANEOUS TRADES.		
Riggers	6 0	1.46
Watermen	6 0	1.46
Bricklayers	7 0	1.70
Laborers	4 0	.97
Painters	6 0	1.46
Red leaders	4 0	.97
Polishers	6 8	1.62
TRADE IN ENGINE WORKS.		
Angle iron smiths and platers	8 0	1.95
Riveters and calkers	7 0	1.70
Holders-up	6 0	1.46
Strikers	3 8 to 4 0	.89 to .97
Helpers	3 8 to 4 0	.89 to .97
Slingers	4 6 to 5 0	1.09 to 1.22
Drillers	4 6 to 5 0	1.09 to 1.22
Laborers	3 8 to 4 0	.89 to .97
Blacksmiths	6 4 to 6 8	1.54 to 1.62
Strikers	4 6 to 5 0	1.09 to 1.22
Apprentices	3 to 2 8	.06 to .65
Joiners	6 8 to 7 0	1.62 to 1.70
Fitters and electricians	6 4	1.54
Apprentices	8 to 2 8	.16 to .65
Helpers	3 8 to 4 0	.89 to .97
Pattern makers	7 0	1.70
Apprentices	8 to 2 8	.16 to .65
Coppersmiths	6 8	1.62
Apprentices	8 to 2 8	.16 to .65
Helpers	3 8	.89

MANCHESTER.

In the five shipbuilding plants in this district the general rule is 10 hours per day for 4 days each week, reducing the hours on Monday and Saturday or Saturday alone in a way to make the number of hours worked during the week average 9 hours per day or 54 hours per week. This is varied in special cases to run from 53 hours to 55½ hours per week.

WM. HARRISON BRADLEY, *Consul.*

MANCHESTER, ENGLAND, *November 1, 1904.*

NOTTINGHAM.

There are three shipbuilding plants at Boston in this consular district. One belongs to the harbor commissioners and is rented to owners who wish to repair their vessels, hence has no specific time scale of labor. A private plant reports 54 hours weekly, or from 6 a. m. to 5 p. m. daily, with lunch intervals, except Saturday, when the hours are from 6 a. m. to 1 p. m. Overtime is worked if necessary. The third plant reports 54 hours per week, or 9½ hours daily, except Saturday, when the limit is 6½ hours—this from February 1 to October 31. The rest of the year the working time is reduced according to light and weather, the shortest being 40 hours weekly.

FRANK W. MAHIN, *Consul.*

NOTTINGHAM, ENGLAND, *November 14, 1904.*

PLYMOUTH.

At the port of Plymouth there are, including the Government dock yard at Devonport, eight shipbuilding plants, employing about 12,000 men. Work in these yards commences at 6 a. m. and ends at 5 p. m., every day of the week except Saturday, when the yards close at noon. The working hours per week are 53. Dinner hours are from 12 to 1, and a half hour is allowed for breakfast. There is no work on Sundays or on the four bank holidays of the year.

JOSEPH G. STEPHENS, *Consul.*

PLYMOUTH, ENGLAND, *October 20, 1904.*

SOUTHAMPTON AND PORTSMOUTH.

The daily and weekly hours of labor in shipbuilding plants at Southampton and Portsmouth are as follows: Monday to Friday, 9¾ hours per day; Saturday, 5¼ hours; weekly labor, 54 hours.

RICHARD JONES, *Acting Consul.*

SOUTHAMPTON, ENGLAND, *November 2, 1904.*

MUNICIPAL OWNERSHIP.

Reports from United States Consular Officers, 1897–1905.

AUSTRIA.

MUNICIPAL GAS WORKS IN VIENNA.

(From Monthly Consular Reports for November, 1897.)

The municipal government of the city of Vienna commenced about five months ago to lay its own gas pipes and erect its own gas retorts. The officers hope to have the entire works for the manufacturing and supplying of gas for the citizens finished by 1899, when the contract between the gas company and the city expires. The gas company has charged 9½ kreutzer (3.8 cents) per cubic meter (35.316 cubic feet) for gas furnished private parties, 7 kreutzer (2.8 cents) for street lighting, and 9 kreutzer (3.6 cents) for municipal buildings. A monthly rent has also been charged for gas meters. The city authorities have commenced negotiations looking to the purchase of the plant. Thirty-five million florins was the first price asked by the company for its gas works, pipes, etc. This figure was in time reduced to 30,000,000, 25,000,000, and finally 16,000,000, all of which offers the city declined to entertain, until finally all negotiations were broken off, and the city commenced to lay its own pipes, etc. This arrangement will be expensive to both parties. With the expiration of the contract, the old plant will be almost a dead loss to the company, and the new gas works will cost the city more than the price asked for the old ones.

A commission appointed by the city to investigate the cost of production of gas has reported that the city will net a clear profit of over 3,000,000 florins ($1,216,500) annually, should the price of gas be the same as the existing company is by contract permitted to charge.

M. JUDD, *Consul-General.*

VIENNA, AUSTRIA, *August 14, 1897.*

DOMINION OF CANADA.

MUNICIPAL OWNERSHIP IN CANADA.

(From Monthly Consular Reports for June, 1904.)

In the return of reproductive undertakings operated by municipalities in Ontario, it is stated in an official report that out of 14

cities, 106 towns, and 134 villages, to which forms of inquiry were sent, returns had been received by the 18th of November, 1903, from 12 cities, 90 towns, and 118 villages. Of these, 11 cities, 57 towns, and 21 villages had been carrying on reproductive undertakings, and a number of the others reported that they were about to acquire waterworks or electric-lighting plants. There are 79 municipalities in Ontario which own their waterworks, 35 which have their own electric-lighting plants, 4 which supply electricity, 2 supply gas, 2 have municipal cemeteries, 1 possesses a dock, and 1 operates its own street railway. There was an average annual loss on the municipal street railway and electric-lighting system combined at Port Arthur of $1,370.95 for the period of four years ended December 31, 1902. Profits are shown in 44 cases and losses in 48. In one case there was no profit or loss and in 23 no reports were made. The municipal gas plant at Brockville, which was established in 1901, realized an annual profit of $4,000 on an invested capital of $85,000, but the natural gas sold by the corporation at Kingsville showed a loss of $243.38 on an invested capital of $27,000. The business of supplying electricity to consumers by municipalities has been begun too recently, in most cases, to admit of statistics of profit and loss. In Bracebridge there was an average annual profit of $620.28 on electric lighting and electric supply combined, which were first provided by the town in 1895; but at Hespeler, where the system was established in 1900, there was a loss of $3,084.60 on an invested capital of $15,483.48.

W. R. HOLLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *May 10, 1904.*

MUNICIPAL OWNERSHIP IN ONTARIO.

(From Monthly Consular Reports for December, 1904.)

The city of St. Thomas owns and operates the 6 miles of electric street railway within its corporate limits. The road gives general satisfaction as to service, but at the expense of a deficit ranging between $3,000 and $4,000 per annum. The city owns and operates the waterworks system very successfully. This plant nets a small annual surplus and at the same time gives entire satisfaction. The city is now about to take over the plant of the gas and electric company, and a board of arbitration is at present engaged in settling a difference of valuation between the city and the private corporation owning the property.

M. J. BURKE, *Consul.*

ST. THOMAS, ONTARIO, *October 31, 1904.*

MUNICIPAL OWNERSHIP PROJECTS IN CANADA.

(From Monthly Consular Reports for February, 1905.)

The Labor Gazette for December says:

The extent to which the subject of municipal ownership has been discussed in Canada, more particularly in view of the approaching municipal elections, was a notable feature during November. The municipalization of the railway systems of Toronto and Ottawa was proposed, an offer of the stock being made by the company in the lat ter to the city council for $2,500,000. The purchase of the Hamilton street railway by the municipality was also proposed. In connection with gas and lighting plants the city council of Westmount, Montreal, decided in favor of taking over and operating the local electric lighting plant, and the question will be presented to the ratepayers in December. Final arrangements were made for the purchase of gas stock to the amount of $1,000,000 by the municipality of Toronto, as sanctioned by the ratepayers. The municipality of Calgary has decided to invest $60,000 in a lighting plant. In connection with the negotiations at St. Thomas, Ontario, for the purchase by the municipality of the plant of the local gas and electric light company, the experts engaged in valuing the plant came to a decision in November, the sum named being $196,366. The agreement with regard to the purchase of the plant will be submitted to the ratepayers for sanction in January. Recent reports from the city of Kingston show that municipal ownership of the electric lighting plant is meeting with financial success. The establishment of a municipal telephone system was discussed at Whitby, Ontario, which is now supplied with a system of waterworks, light, and power.

W. R. HOLLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *December 29, 1904.*

COATICOOK MUNICIPAL ELECTRIC LIGHT.

(From Monthly Consular Reports for March, 1905.)

On October 1, 1903, the municipality of Coaticook, having a population of about 3,500, came into possession of the electric-light plant, previously operated by a private company. The sum paid was $36,000, the corporation issuing 4 per cent debentures to that amount, which were sold at very nearly par. The power used is derived from two dams a short distance apart, on the Coaticook River, as its descent is very great. The horsepower thus developed is about 400, capable of carrying over 4,000 16-candlepower lights. The full capacity has not thus far been utilized, but an additional dynamo is soon to be installed, so that all the power can be used to meet the growing demand.

A very severe drought in the winter of 1903–4 and the somewhat experimental operation of the first year were unfavorable conditions

for the new enterprise, yet the first fifteen months gave exceedingly satisfactory results. Apart from an unnecessary operating expense of $500 the first year, which has now been remedied, a loss of $800 on account of the drought, and improvements to the amount of over $2,000, there was a cash surplus of $1,000. With the plant in operation to its full capacity, and under ordinary conditions, it is expected that the municipality will have an annual income of over $5,000 above expenses with which to meet repairs, pay interest on the debentures, and add to the surplus. There was great opposition to the purchase of the plant by the municipality, but it has been overcome by the quality of the service rendered and the excellent showing made for the first year's operation. Quite a revenue is derived from the use of electric power for motive purposes in stores, shops, and mills.

FRANKLIN D. HALE, *Consul.*

COATICOOK, QUEBEC, *February 7, 1905.*

FRANCE.

MUNICIPAL KITCHENS IN NANTES.

(*From Monthly Consular Reports for January, 1902.*)

The city of Nantes has an inexpensive method of supplying food to the destitute, as well as providing them with lodging for the night. For several years the city has managed a system of municipal kitchens known as "Les Fourneaux Alimentaires Municipeaux," where persons without money may present tickets and procure a warm, substantial meal. The city has also recently erected one of these buildings, having in connection therewith a dormitory, with beds for the accommodation of about 50 persons. These beds are free to the destitute for a period of three nights, when they are obliged to make room for others. The sick are sent to the hospital. During the stay at the dormitory each one is given two meal tickets each day. These municipal kitchens are open from the 15th of October until the 15th of April each year, but the dormitory is open during the entire year. Two meals are served each day, the noon meal from 10.30 a. m. until 1.30 p. m., and the evening meal from 5 until 7.30 p. m. With the exception of the kitchen connected with the dormitory, the meals are not exactly free, but the prices are so low that no one is obliged to suffer from hunger. Tickets entitling the holder to one dish of anything on the bill of fare are deposited at the bakeries and tobacco shops throughout the city, where they are purchased by charitably inclined citizens, who in turn hand them to applicants for charity.

The following is the bill of fare furnished daily, together with the prices: Beef soup, boiled beef, beef stew, beef with sauce, codfish,

pork and cabbage, beef à la ravigote, stewed tripe, eggs à la tripe—each plate 2 cents. Water soup, beans, and rice are furnished at 1 cent per plate. When these kitchens were first opened the expense to the city was considerable, but during recent years the deficit has been gradually reduced, until last year it was only 8,000 francs ($1,544). The total expenses for the same period were 48,000 francs ($9,264) and the receipts 40,000 francs ($7,720). There is a superintendent over all the establishments, who receives a salary of 250 francs ($48.25) per month. In each kitchen there is a director at 60 francs ($11.58) per month, a cook at 45 francs ($8.68), and an assistant cook at 40 francs ($7.72), all being women. This does not include wages paid in the dormitory.

The following indicates the kind and quantities of food consumed during the past year in the eight kitchens:

Kind and quantity of food consumed in eight municipal kitchens at Nantes, France, 1900.

Kind.	Quantity.	Kind.	Quantity.
	Pounds.		*Pounds.*
Beans	33,000	Cabbage	13,200
Rice	1,540	Leeks	4,400
Salt	9,020	Onions	5,500
Sugar	440	Milk	5,500
Pepper	264	Garlic	330
Potatoes	110,000	Meat:	
Carrots	8,800	Beef	17,600
Turnips	8,800	Bacon	2,640

The amount expended for fuel was $1,061 for coal and $96.50 for wood.

The privilege of taking meals in these kitchens is not restricted to the destitute class. Many of the laboring men obtain their meals there on account of the moderate prices. A moderately substantial meal may be obtained for 5 cents. For example, the meal may consist of a plate of meat, a bowl of soup, and a small loaf of bread. Wine is not served at any of the kitchens.

JOSEPH I. BRITTAIN, *Consul.*

NANTES, FRANCE, *October 30, 1901.*

GERMANY.

MUNICIPAL ELECTRIC LIGHT AND POWER IN GERMANY.

(*From Monthly Consular Reports for April, 1898.*)

In the following cities in the German Empire the municipal authorities own and manage the electric works supplying light and power: Bremen, Barmen, Cassel, Darmstadt, Düsseldorf, Elberfeld, Hanover, Cologne, Königsberg, Lübeck, and Pforzheim. All of these cities, with the exception of Hanover, also own the gas works. The following cities have constructed electric works for the purposes of light

and power, but have leased the management of the same to private operators: Aix la Chapelle, Chemnitz, Frankfort, Strassburg, and Stuttgart, all of which, with the exception of Chemnitz, are cities where the gas works are under the management of private corporations. In the following cities private companies have established electric works with the agreement that, under certain conditions, the municipal authorities shall have the privilege of securing absolute control and ownership by purchase: Altona, Dessau, Gera, Hagen, Heilbronn, Leipzig, Mülhausen, Stettin, and Zwickau. Of these cities, the gas works are under private control in Dessau, Hagen, Mülhausen, and Zwickau.

JAMES T. DUBOIS, *Consul-General.*

ST. GALL, SWITZERLAND, *January 28, 1898.*

MUNICIPAL TRAMWAYS IN BERLIN.

(From Monthly Consular Reports, May, 1901.)

Under date of January 31, 1901, Consul-General Guenther writes from Frankfort, Germany:

The Local-Anzeiger, of Berlin, states that on January 30, 1901, the city paid 10,000,000 marks ($2,380,000) to the firm of Koenen & Co., thereby becoming proprietor of the Siemens & Halske street car lines. The shares of stock have been delivered to the magistracy.

ELECTRIC STREET RAILWAY IN MANNHEIM.

(From Monthly Consular Reports for May, 1901.)

I have to report the putting into operation of a new electric street railway system in this city, to take the place of the horse-car system heretofore in use. The present equipment is modern in all respects. The track is heavy and was laid on a solid foundation of stone and cement. The electric equipment was furnished by Siemens & Halske, of Berlin; the cars were built by a Hamburg car company. The system belongs to the city and is operated by a street car bureau appointed by the city government. The technical engineer in charge of the lines was formerly in charge of those at Basel. Power for operating the cars is furnished by the city light and power plant. Further extensions of the lines are contemplated the coming year.

The ordinary system of transfers is in use over the lines and will apply to the extensions. A minimum charge of 10 pfennigs (2.38 cents) is charged over the shorter courses now in operation and 15 pfennigs (3.57 cents) over the longer courses. These rates, by the purchase of fifty tickets, are reduced to a little less than 2 and 3 cents, respectively.

The lines have been in use for about five weeks. The management claim to be well satisfied with the travel.

H. W. HARRIS, *Consul.*

MANNHEIM, GERMANY, *January 8, 1901.*

MUNICIPAL TRAMWAYS IN COLOGNE.

(From Monthly Consular Reports for March, 1902.)

The first street railways in Cologne owed their origin, as did many similar undertakings in Germany, to the enterprise of foreign capitalists, the concession being granted to a Belgian company in 1878. A fresh concession was granted by the town for each line to the outlying suburbs, and some of the concessions would not have expired until 1924. The city authorities appointed in 1897 a committee to ascertain on what terms the company would dispose of the property.

A contract was finally agreed upon, the most interesting terms of which are given below.

The city of Cologne was to pay to the street railway company: (1) An annual sum of 1,000,000 marks ($238,000) from January 1, 1899, to June 30, 1913, amounting in all to 14,500,000 marks ($3,451,000); (2) from 1903, 25,000 marks ($5,950) for each year, until June 30, 1913. All the lines passed, without an indemnity other than that specified in this contract, into the possession of the city. The city took possession of all real estate, buildings, and accessories used by the company. The actual cost to the town, therefore, including the cost of any buildings they might subsequently take over, was in round figures 16,500,000 marks ($3,927,000).

For the conversion of the existing lines into electric traction and for the laying of one or two new lines the city granted an appropriation of 18,000,000 marks ($4,284,000). The overhead-wire system was decided on, and one section was opened for traffic on October 15. The installation was carried out by Messrs. Siemens & Halske, of Berlin.

In 1898 the clear profits amounted to 1,028,000 marks ($244,600), and as the profits have increased regularly, it is hoped that in 1914 they will amount to 2,280,000 ($563,400).

Fares charged on street railways in Cologne, Germany, 1901.

Classification.	German currency.	American equivalent.
	Marks.	*Dollars.*
Yearly tickets, good on all lines	120.00	28.56
Monthly tickets:		
Good on all lines	10.00	2.38
Good on any one line	7.00	1.66
Ordinary fares:		
For maximum distance	.15	.035
For minimum distance	.10	.024
Children under 10 years of age, maximum distance	.05	.012

Persons attending educational institutions may secure commutation tickets whereby they are allowed to ride the maximum distance for 5 pfennigs (1.2 cents).

The management of the railways is in the hands of a committee of the town council, the actual manager being appointed by the council, and having the usual staff of engineers, inspectors, etc., whose salaries are the same as those paid by similar concerns. The exact amounts are not obtainable.

The motormen are paid wages of 3.50 marks (83 cents) and the conductors 3 marks (71.4 cents) per day of ten hours, with one day a fortnight free to compensate for the fortnightly Sunday work.

The town may at any time let or sell the right to work the railways should it be found that this would be most satisfactory, but the general impression is that when the final payment has been made to the old company the profits will in a short time amply repay the initial expenditure.

CHAS. E. BARNES, *Consul.*

COLOGNE, GERMANY, *December 4, 1901.*

MUNICIPAL MANAGEMENT OF PUBLIC WORKS IN GERMAN CITIES.

(From Monthly Consular Reports for October, 1903.)

In Germany there is a very strong tendency on the part of the State or municipal authorities, as the case may be, to secure control of all the works which contribute in any way toward the public welfare. It is usually the custom on the part of local authorities to grant a concession for a certain number of years, providing that when the time expires the city shall assume control of the enterprise. In the majority of cases it has been either private enterprise or a stock company which has taken the initiative in German cities in introducing the most advanced technical and scientific improvements. This has been the case in small towns as well as in large cities. The water and gas works of Eibenstock, for example, were built a few years ago by a stock company organized by the citizens of the town. The ownership of both, however, was recently acquired by the municipal government and the company liquidated. Government control of all such enterprises has led to a great rivalry among the large cities of the Empire in striving to be first in the application of the newest methods and latest inventions known to science. The exhibits of the different cities of the Empire at Dresden afford a striking opportunity to study the progress made in industrial science and its application in Germany to-day.

The exhibition is divided into two parts. In the first section are the exhibits of the large German cities with regard to the progress made

in recent years relating to municipal management of waterworks, sewerage canals, underground wires, telephones, electric railways, gas and electric light works, etc.

One of the most interesting features of the exhibition is the cross-section street of the city of Dresden.

In the second section of the exhibition many of the large industrial concerns of the Empire are represented.

ERNEST L. HARRIS, *Commercial Agent.*

EIBENSTOCK, GERMANY, *July 20, 1903.*

GOVERNMENT BY EXPERTS.

(From London Daily Mail, forwarded by United States Consul Haynes, Rouen, France, November 10, 1904. Reprinted from Monthly Consular Reports for December, 1904.)

Although it can not be said that there are no poor in Berlin, nor that it is altogether without rags and wretchedness, yet, as a rule, they "do not show the dust bins."

One difference between London and Berlin is that the one is ruled by anybody who can catch votes, the other only by men of the highest probity and proved ability in municipal affairs. So that when the stranger comes to London—the London of unlimited philanthropy and well-nigh universal charity—he is shocked by the eternal squalor and destitution of our streets; and when he visits Berlin—the Berlin which is practically irreligious and certainly with nothing of London's charity—he is amazed by the cleanliness and prosperity, not only of every street, but of every citizen.

Berlin is ruled by municipal experts. It has its wretchedness and its despair, but these things are not permitted to increase. To be out of work in Berlin is a crime, even as it is in London, but with this difference, in Berlin the municipality legislates for labor in a fashion which makes idleness all but indefensible.

The laws to this end may not commend themselves to English minds, for the German is not soft hearted in such matters; but they have this engaging recommendation, they succeed. Let a ragged man make his appearance in Friedrichstrasse or the Lindens, or in any of the numerous open spaces, and in a minute a policeman is after his papers. If it is proved that he has slept in the asylum for the homeless more than a certain number of nights he is forthwith conducted willy-nilly to the workhouse and made to labor for his board and lodging.

The workhouse in Germany is not a prison, but the vagrant would as lief go to the one as to the other. The administration of the workhouse is conducted with iron severity; every ounce of bread and every drop of thin soup consumed by the workhouse man is paid for a thousandfold by the sweat of his brow. So it comes about that the man least disposed to work, the born vagabond, finds it more agreeable to toil for his bread in the market than to fall into the hands of a paternal government.

Berlin takes advantage of the system in Germany which numbers and tickets every child born in the Fatherland. No man can roam from district to district, changing his name and his life's story with

every flitting. He is known to the police from the hour of his birth to the hour of his death. For a few pfennigs I can read the history of every person in Berlin. Therefore the municipality has an easy task. Every citizen's life story is known to them, and every vagrant is punished for his crime against the community.

Moreover, every person of humble means is insured by the State. Even clerks, shop assistants, and servants are compelled to insure against sickness and against old age. This insurance is effected by the pasting into a book of certain stamps every week, and it is the duty of each employer to see that this contract is faithfully obeyed. And now the State has built at Beelitz an enormous sanatorium, costing 10,000,000 marks ($2,380,000), where the invalided citizen is sent with his pension, in order to expedite his valuable return to the ranks of the wage-earners. It pays the city of Berlin to nurse its sick and cherish its invalids. The whole object of the municipality is to secure the physical and intellectual well-being of its citizens; and on this task it concentrates its labors with amazing energy.

I have talked about this subject with Doctor Freund, the chairman of State insurance for Berlin. He is a favorite with the Kaiser, and our own King and Queen have discussed with him the subject of the health of the working classes. No man understands his business better than this small, neat German. The State, he holds, should do everything to fit its citizens for the battle of commercial competition; and when it has done everything, when it has first equipped, then safeguarded, and afterwards assisted in distress, it should punish sternly and steadfastly the lazy and the indolent. Fall sick, says the State to its work people, and we will nurse you back to vigor; drop out of employment, and we will find you fresh work; grow old, and we will provide you with bread and butter; but become lazy and vagabond, and we will lock you up and make you work till you have paid the uttermost farthing of your debt.

Berlin has erected a huge building resembling a factory, where the unemployed—whole families—are received and provided for. But no one must take advantage of this hospitality more than five times in three months. Consider this point of view. If you are homeless five times in three months you are dubbed a reckless creature and packed off to the workhouse. Private enterprise, with the socialist, Herr Singer, at its head, has provided another asylum where the homeless may come five times in one month and where the police are not allowed to enter at night. I have visited this place and have seen the people who attend it—some decent enough, others criminal in every line of their faces. There are many of these desperate men in Berlin, many of these dirty, ragged, and unhappy wretches, doomed from the day of their birth, but they dare not show themselves in the decent world as they do in London. They slink into these asylums at 5 o'clock; they have their clothes disinfected; they cleanse themselves under shower baths; they eat bread and drink soup, and then they go to bed at 8 like prisoners to their cells.

Now, this system is a hard one, for when once a man gets down in Berlin it is almost impossible for him to rise, but it has this clear advantage—everybody feels that it is better to work than to fall into the hands of the law.

Rags and misery dare not lie about in the parks or scatter disease

through the crowded streets. If there is any virtue in the unemployed the State will certainly develop it as well as it is possible to do so. There is a central bureau for providing men with work, and when a man knows that not to work means the workhouse he solicits employment here and elsewhere with such a will as almost compels wages. In one year the State has secured employment for 50,000 men.

The citizen is provided with sanitary dwellings, with unadulterated food, with schools and technical colleges, and with insurance for sickness and old age. For a penny he can travel almost from one end of Berlin to the other by electric tramway or electric railway. His streets are clean, brilliantly lighted, and noiseless; his cafés and music halls are innumerable. He lives in a palace. And all this is the result of municipal government by experts instead of by amateurs.

MUNICIPAL ECONOMY AT BERLIN.

(From Monthly Consular Reports for February, 1905.)

The renown of Berlin as perhaps the cleanest, most progressive, and one of the best administered large cities in the world has for years past attracted the attention of municipal officers and boards of city improvement in the United States, and has inspired frequent inquiries as to the cost and various details of administration in specified departments of the city government. With a view of answering concisely a large part of these special inquiries, the following report, giving the statistics of cost and accomplishment in several leading departments, is respectfully submitted:

PAVEMENTS.

On March 31, 1904, there were in use within the municipal limits of Berlin, exclusive of suburbs, 6,213,711 square meters (7,425,384 square yards) of paved streets, which have an approximate length of about 300 miles. The pavements are divided, according to material and method of construction, into three general categories, as follows: Asphalt, 2,256,442 square meters (2,696,448 square yards); wood, 90,638 square meters (108,312 square yards), and stone, 3,886,631 square meters (4,644,524 square yards), in which latter group are included 881 square meters (1,246 square yards) of cement macadam and 149 square meters (178 square yards) of small stone blocks on béton foundation, laid for experimental purposes. All these pavements are cleaned frequently, a large part of them daily, by a carefully organized corps of 1,834 men and boys, which can be increased by taking on extra men in case of snow or other temporary stress of duty. During 1904 the wages of the regular street-cleaning force amounted to 2,158,427 marks ($513,706), besides 64,275 marks ($15,297) paid for extra help, making the total labor cost of street cleaning for the year 2,222,692 marks ($529,000). During the year there were collected and hauled away 156,692 wagon loads of ordinary street dirt

and 47,289 loads of snow, the latter being generally dumped into the river and canals within the city limits.

WATER SUPPLY.

The report for 1904 shows that the volume of water pumped up by the city waterworks was 15,250,059,260 gallons, of which 56,418,700 cubic meters (14,894,536,800 gallons), an average of 157,539 cubic meters (41,590,396 gallons) per day, were used by the people of Berlin. The maximum consumption per day for each inhabitant was 110 liters (29.05 gallons) and the minimum daily consumption was 53 liters (14 gallons), the mean daily average for the year being a little more than 81 liters (21.39 gallons) for each inhabitant. The water supply is derived from the river Spree and a small lake called the Müggelsee, which is in effect only a wide, deep part of the river channel. It is filtered by a large and admirably managed plant located at Friedrichshagen, and is an exceptionally pure and wholesome supply for a large city.

SEWER AND SEWAGE FARM SYSTEM.

Berlin has a scientific and highly successful system of sewers, by which the sewage of the city, instead of being discharged into the river and canals, is collected and pumped through pipes to seven "rieselfelder," or farms, located in various directions on the sandy plain that surrounds the city, where it is used for irrigating and fertilizing the naturally thin and rather unproductive soil. These seven farms contain an aggregate of 13,250 hectares (32,740 acres), and cost as follows: For the land, 27,670,127 marks ($6,585,490); for drainage, grading, etc., 17,484,688 marks ($4,161,343), and for buildings, equipment, etc., 4,552,571 marks ($1,083,511), a total of $11,830,357. Upon these seven farms the sewers of Berlin discharged, during the fiscal year 1903, 83,112,150 cubic meters (21,941,607,600 gallons) of liquid sewage, being a daily average of 8.32 cubic meters, or 2,196 gallons, from each of the 59,473 grundstücke or buildings on separate lots which constitute the city. For the first time since the sewage farms were established they paid in 1904 all expenses of administration and maintenance and yielded a net surplus of 384,751 marks ($91,750), which was turned into the city treasury. This result was due mainly to the fact that during the long, severe drought of last summer the rieselfelder were pushed to their full capacity in growing grass and vegetables, which, in the dearth of ordinary supplies, were sold on the spot at famine prices.

GAS PRODUCTION AND CONSUMPTION.

During the fiscal year 1903–4 there was produced in Berlin 191,709,000 cubic meters (6,770,395,044 cubic feet) of illuminating gas, of which 170,746,297 cubic meters (6,030,176,224 cubic feet) were used by pri-

vate consumers, 12,863,571 cubic meters (454,289,873 cubic feet) for street lighting, and the remainder at the various municipal buildings and institutions. The cost of gas to private consumers is 12½ pfennige, or 3⅛ cents, per cubic meter, equal to about 87 cents per 1,000 cubic feet, and this price is now uniform whether the gas be used as fuel or for illuminating purposes.

The lighting of streets and public parks, squares, etc., employs 30,912 gas lamps—of which 1,083 are supplied by the English Continental Gas Company and 29,829 by the Municipal Gas Works—besides 611 electric arc lamps, 118 incandescent electric, 394 petroleum, and 9 alcohol incandescent lamps, a total of 32,050 lights of all the foregoing classes.

FIRE ALARMS.

In 1903 there were 12,603 cases of accidental conflagration in Berlin. That they were mostly unimportant is shown by the fact that in only 1,923 cases the danger was thought sufficient to justify sounding the alarm and calling out any portion of the fire department. The solid, judicious construction of modern buildings, the enforced use of iron and steel beams, fire-proof stairways and ceilings, and the limited use of wood in construction generally result in confining a fire to the story and often to the room in which it originates. As the statistics show, 10,680 of the fires that broke out in 1903, or five-sixths of the whole number, were extinguished by the use of water and chemical extinguishers without calling in the aid of the firemen. Of the 1,923 cases in which the alarm was sounded, 104 are classed as "large fires," 176 as "medium," 1,558 as "small," and 85 were nothing more than the burning out of soot in foul chimneys. Of the total number of fires in 1903, 11,315 were in dwellings, 696 in stores and business offices, and 308 in factories and workshops.

MUNICIPAL SLAUGHTERHOUSE.

The local regulations provide for a rigid inspection of all animals which are to be slaughtered for food, and require that they shall be killed and dressed at the municipal slaughterhouse under the direction and inspection of specially qualified officials. Not only the living animal, but its flesh, when dressed, is inspected and stamped before it may be legally offered for sale. During 1903 there were killed and prepared for market at the municipal slaughterhouse in Berlin 153,426 cattle, 156,984 calves, 413,388 sheep, 895,206 swine, and 11,818 horses. The annual meat consumption ranges from 162 to 180 pounds per capita for the entire population of Berlin.

INTERURBAN PASSENGER TRAFFIC.

There were carried during the fiscal year 1903–4 by the elevated steam railway (Stadtbahn), 36,083,553 passengers; by the circular electric

railway (Ringbahn) 23,240,173, and by all the other electric surface and underground lines, 397,578,962, a grand total of 456,902,488 passengers. To these are to be added 85,878,795 passengers carried by the several omnibus lines, which, notwithstanding the steady extension and improvement of the electric tramway system, continue to handle an increasing traffic from year to year. The whole number of accidents during the year was 2,146, of which 31 were fatal, which in respect to cause and responsibility were described as follows: Elevated and underground lines, 26 injured, none fatally; surface electric tramways, 1,985 injured, 26 killed; omnibuses, 134 wounded, 5 killed, a rather disastrous record, but perhaps not more so than would be expected when the vast total number of passengers carried and the crowded condition of many narrow Berlin streets are considered.

FRANK H. MASON, *Consul-General.*

BERLIN, GERMANY, *January 18, 1905.*

UNITED KINGDOM.

ELECTRIC STREET RAILROADS IN ENGLAND.

(From Monthly Consular Reports for February, 1899.)

Heretofore the cities of Great Britain have been among the most backward of any cities of the leading nations of the world in the matter of street railroads. A great change is taking place, however. There has recently appeared in London a trade journal devoted to street railroads and kindred subjects. Undertakings are in progress in the principal cities of the Kingdom for the establishment of the most improved systems. In a large number of cases these enterprises are a feature of a remarkable movement which has been quietly but irresistibly getting control of the government of the chief cities, and may be described as "municipal socialism"—that is, the ownership and operation by the municipality of certain enterprises which by their very nature must necessarily be more or less monopolistic, such as street railroads, electric and gas lighting plants, the water supply, and telephones. In some instances, however, this municipal socialism extends beyond this classification. In several cities in Great Britain the municipal corporations build dwellings for workingmen, and even run hotels; in others they erect and operate magnificent mineral and Turkish baths.

In this connection the following extract from the Liverpool Daily Post of the 23d instant is of interest:

Lord Rosebery once described the work of the London county council as the greatest experiment in practical socialism that the world had seen. People who dislike socialism, especially socialism of the practical kind, will be very angry with the decision arrived at by the

county council to-day to throw part of the rent—or what ought to be the rent—of some new working-class dwellings (municipal) on the rates (local taxes). The justification for this step seems to be that suitable houses can not be erected in place of those that are about to be removed unless higher rents are charged, and that to charge higher rents would be a hardship on the displaced tenants. Consequently the general ratepayer is to be called upon to disburse the balance between the old rent and the new.

In Liverpool, the city government buys property condemned as insanitary, and erects thereon model dwellings for workingmen; it has established the finest system of public salt and fresh water baths, both for swimming and ordinary tub baths, of any city in Great Britain, some of them being free, and recently the city has taken possession of the electric-light plant (but not the gaslight) and the entire street railroad system. In the neighboring town of St. Helens (the center of the English chemical trade), the municipal corporation is to lay the tracks, furnish the cars, and equip the routes with overhead trolleys and supply electric motive power, but will lease the entire system to a company, who will be allowed to charge only certain fixed fares.

A few days ago the first electric street car in Liverpool was started. The line is experimental. It is 2½ miles in length and has a double track. Each motor car has a trailer, the latter being a smoking car. The fare is a penny (2 cents) for the trailer and 2d. (4 cents) for the motor car. The cars are to be fitted with air brakes. In Liverpool, as in most of the other cities referred to, it is intended to use electricity as the motive power for the street cars, although there are those who insist that gas or oil motors are preferable.

Attention is here drawn to this newly awakened spirit of enterprise, so general on the part of British municipalities, in the hope that American contractors and manufacturers may secure some of the work of supplying the plants. The recommendation is made that American firms who manufacture and deal in street railway and electrical appliances put themselves in communication with the municipal authorities over here. This can be done by addressing the city engineer. As nearly every city and town of importance in Great Britain has such work under progress or in contemplation, it is unnecessary to give a list, and those interested can hardly go astray by addressing the city engineer of any large city in England or Scotland, and the same suggestion holds good, to a limited extent, for Irish and Welsh municipalities. The further suggestion is made that American contractors and manufacturers who desire to bid for such work should have an agent, say, in London, who could keep them informed of the undertakings determined upon, so that bids could be promptly made.

There is a general belief, both in the United States and England, that contracts for these public undertakings must be advertised for in

the newspapers and must be let to the lowest bidder. I learn, however, from official sources that this is not necessarily so. It is not the case so far as Liverpool is concerned, and I understand that it is not so as regards most of the cities. These great municipal enterprises are undertaken by authority of act of Parliament. First, certain powers are granted by general acts. Then specific authority to meet local conditions is obtained in one of two ways, viz, (1) either by special local act passed by Parliament, or (2) by provisional order of the Government Board of Trade, which body subsequently has its permissive authority or grant of power confirmed by act of Parliament, a number of such grants being "omnibussed" in one act. The general public understanding has been that in the Parliamentary acts there is a proviso necessitating advertising in the newspapers and the awarding of the contracts to the lowest bidder. On inquiry, however, I learn that these details are left to the municipal authorities. After the plans and specifications are drawn up, the rule is for the council committee, through the city engineer, to write to concerns inviting bids. On application the engineer will supply forms, plans, and specifications.

Without entering into the domain of politics, it is to be observed that there are two opposing views in England as to the awarding of contracts by municipalities, in so far as foreign competition is concerned. One view (and it is that held by the larger taxpayers, by the gentry, and by the professional classes) is that there should be absolute free trade, not only in the importation of merchandise, but in the awarding of contracts—that corporations, municipalities, and individuals should have no restrictions or conditions whatever imposed in regard to availing themselves of the best and cheapest markets whether home or foreign. The other view is that municipial contracts should, if practicable, be given to home concerns and home labor, and not necessarily to the lowest bidder. This latter view is that held by the workingmen, and particularly the trades-unionists, who, in England are thoroughly organized and have a potent voice in political matters, both national and municipal.

Within the last two years there has been a widespread agitation in Great Britain against the awarding of public contracts to foreign concerns. This sentiment has been particularly aroused by the bringing over of workmen from the United States to perform public contracts. Were it not for the fact that for the last eighteen months labor generally has been plentiful here, with fair wages, this opposition would probably have made itself even more manifest. Certain industries, particularly those relating to iron and steel, are very busy in Great Britain now, as there is an accumulation of orders which had to be postponed because of the recent engineers' strike. It so happens that the movement described above for the "municipalization" and

improvement of street railroads and the construction of electric-light plants, etc., became active throughout Great Britain contemporaneously with the labor troubles of last year and the year before. The result was that the British manufacturers were placed at a great disadvantage when it came to making bids for these public contracts, and this applied both to prices and the time in which the work could be turned out. Some municipalities issued advertisements for tenders and gave the contracts to the lowest bidders, even though they were foreign concerns, and a number of American contractors and manufacturers reaped the advantage. The Germans also got a number of contracts for steel rails. Then the agitation arose among the workingmen against giving contracts to foreign concerns, and pressure was brought to bear upon the councilmen and aldermen of the various municipalities.

Nearly two years ago the corporation of Liverpool purchased the street railroad system for about $3,000,000, with the intention of substituting electricity for horses, the details being left to a committee of the city council. It was decided to build an experimental line, double track, from the center of the city for a distance of about 2½ miles. Although little was publicly said about the matter, the committee was confronted at the outset with the opposition to foreign competition, yet several of the most active of the promoters of the improvement were pronouncedly in favor of a free field and no favor. The first success of the opponents of foreign competition was in the defeat of the proposition to employ an American supervising expert. Bids were obtained for steel rails from a number of firms in England, the United States, and Germany. It was discovered that the English bids ranged from 10s. to 30s. ($2.43 to $7.29) per ton more than the American and German bids. It was claimed that the American and German bids did not fill the conditions exactly as to height and shape of the rail. So the contract for the rails was awarded to a London concern. There was no stipulation as to material, but the distinct understanding was that English rails should be supplied. It turned out, however, that the English concern sublet the contract to a German firm, and all the rails which have been laid on the experimental line, just completed, are marked "made in Germany." The excuse given by the London firm was that, owing to the accumulation of orders on hand, they could not meet the contract in time with English rails.

Last week the committee in charge gave out to a Leeds firm a contract for the rails for an extension of the experimental line. The price to be paid is £7 ($34) per ton. The chairman expressed satisfaction that the rails would be of English manufacture.

So far as the street cars were concerned, the municipal committee found that no English firm could turn them out in time, and so they were compelled to go abroad for the experimental cars. About fifty

have been purchased so far, half of them coming from the United States and half from Germany. Nearly all of the electric plant has come from the United States.

I have inquired with particularity from those in authority whether, in the extension of the electric street railroad system, foreign competition will be invited and accepted if the bids were the lowest and the best. I am informed that, owing to the protests of their constituents, the city council will not go abroad for any more of the work where it can possibly be done in England—and this will include the furnishing of rails, electric plant, and cars. It is better that American contractors and manufacturers should understand the situation as it really exists, and yet I believe it is worth their while to make an attempt to secure some of the work, not only in Liverpool, but in other British municipalities. Within the next few years there will be a great many million dollars spent by the municipalities over here in street railroad and electric light improvements. King's Manual of Electrical Undertakings gives the aggregate capital of the electrical companies in Great Britain and Ireland for 1898 as $426,426,120. In Liverpool alone from $5,000,000 to $7,000,000 will be spent for steel rails, electrical plant, and cars within the next two or three years. The length of the contemplated street railroad extensions is about 100 miles.

A heated discussion is going on here as to the best system of traction. The general sentiment is strongly in favor of electricity as against horses, gas, or oil as motive power. The experimental line just completed is the overhead-trolley system. It has met with much opposition from the standpoint both of æsthetics and of safety. The committee which had the work in charge claimed that the best experts, both in the United States and on the Continent, have pronounced the conduit system a failure, and they plead that they were therefore compelled to adopt the overhead system. The probabilities are that the overhead trolley will be used in the extensions, but that the work will be more artistic and lighter than that of the experimental line. In this connection, it is interesting to note that the city council of Manchester has formally adopted the overhead-trolley system as opposed to the conduit system for the reason, as given, that investigations at New York, Washington, and Baltimore had demonstrated that the former system was the cheaper and more adaptable to varying physical conditions. There are, however, several systems proposed which, it is claimed, are as cheap as the trolley system and as safe as the conduit system, without the disadvantages of either. Particular commendation is given to a new surface-contact system, the invention of Prof. S. P. Thompson, of Finsbury Technical College, London, and Mr. Miles Walker, of Cambridge. This system has been tried in London and has, so it is claimed,

proved successful. A correspondent of the Liverpool Daily Post of the 2d instant thus describes this system:

In the roadway between the rails is laid a single row of bronze studs, which are the points of contact. The studs are about 2½ inches in diameter and are firmly screwed down into a block of concrete about a foot square. They are not at all conspicuous and rise but slightly above the general level of the roadway. The studs are "dead" until they come in contact with a piece of iron charged with the current. As soon as the skate underneath the car touches a stud a connection with the main is established, and the moment the contact is withdrawn the stud is again "dead." Thus the skate underneath the car is the medium of communicating the current to the electric motor, which is the one usually adopted for overhead traction; and the skate must always touch one stud before it leaves the other to maintain a continuous supply of current.

The advantages claimed for this system are: The complete safety of the public, as the studs are absolutely harmless after the car has passed over them, careful provision being made in case, through some accident, the current should remain on; the studs give no trouble at crossings, as one stud will serve for two lines of tramway; they are perfectly insulated so as to resist wet, snow, frost, traffic, and time; no interruption can take place owing to the studs being covered by mud or water, and obstructions such as stone or wood are pushed aside by the skate of the tram car. In case of mishap, a few minutes suffice to unscrew the stud and replace with a new one. It will be seen that the Thompson-Walker system avoids all the disadvantages of the conduit system, as well as the unsightly effect of overhead wires, the studs being scarcely noticeable.

A British company has just made an offer to the London county council to place a dozen gas-propelled street cars on the South London lines, at its own expense, with the object of proving that gas cars are more efficient and more economical than electric cars. Large claims are made for the gas motor (which is a German invention, with English improvements); but a Liverpool municipal official who has investigated it informs me that it is far inferior to the overhead electric trolley system.

In London proper, owing to the narrowness of the streets, surface street railroads are, for the most part, impracticable—at any rate in the older districts of that city. There are two underground railway systems in London—the Metropolitan and the Metropolitan District—both using steam. There is now approaching completion a third underground railway, but electricity will be the motive power, and it is gratifying to state that most of the electric plant is of American make. There were recently ordered from America fifty passenger elevators for the use of underground railways in London. The London Times of the 21st instant gives the following information as to the substitution of electricity for steam on the two old underground railway systems:

The directors of the Metropolitan and Metropolitan District railway companies have decided to undertake at their joint cost a series of

experiments prior to the introduction of electric traction on the Inner Circle lines. For this purpose, it is proposed to lay down between Earl's court and High street, Kensington, an electric installation adequate for the hauling of a train which shall be fully as heavy as those now running at the busiest times of the day on the Metropolitan Railway. This section of the company's line has been chosen for two special reasons: First, because the ordinary service thereon is not so frequent as that on other sections; and, in the second place, because it contains some steep gradients—as sharp as 1 in 40—which will enable the new electrical system to be tested under the severest conditions that would be experienced in regular working.

Each company has agreed to put down £10,000 [$48,666] to defray the cost of the experiments, and these will be carried on, without any interruption of the present steam locomotive traffic, for eight or ten months—a period sufficiently long to demonstrate the practicability of the principle thereafter to be introduced generally on the lines of the Metropolitan and Metropolitan District railways. The contract for the experimental work has been let, and it will be executed forthwith under the direction of Sir John Wolfe Barry, the consulting engineer to the Metropolitan Company, with whom is associated Mr. W. H. Preece, the engineer in chief and electrician to the general post-office.

In the first instance, the generating station, erected on land belonging to the Metropolitan District Railway Company, at Earl's court, will, in all respects except foundations for boilers and dynamos, be temporary in character. Two conductors are to be laid parallel between each of the lines of the permanent way between Earl's court and High street, Kensington, and these will be permanently available when the electric system is introduced generally on the two railways. The contractors have been instructed to build for the purposes of the experiments two motors, so designed as to form part of the permanent plant, and the train used will be similar to those now running over the Inner Circle. It is expected that the preparations for this important trial will be completed during the summer of next year.

Owing to the enormous volume of traffic, the above undertaking will probably be the largest enterprise of any kind in the world in which electricity is the motive power.

The extraordinary awakening in England in the use of electricity extends in a still further direction than that outlined above. There is a scheme under way for connecting Liverpool with the manufacturing towns within a radius of 17 miles by light suburban electric street railroads, which in the daytime will carry passengers and at night will carry freight. Electric light and power will also be supplied to the towns. There will be a huge generating station at St. Helens. The company has a capital of $5,000,000. There are also organizations springing up for the encouragement of the use of electricity, steam, gas, and oil as motive power for freight road wagons.

JAMES BOYLE, *Consul.*

LIVERPOOL, ENGLAND, *November 25, 1898.*

NOTTINGHAM ELECTRIC RAILWAY.

(From Monthly Consular Reports for June, 1901.)

Inquiries constantly reach this consulate regarding features of the electric railway system under construction here and now partly in operation.

SYSTEM ACQUIRED BY THE CORPORATION.

The Nottingham horse tramways, originally 10 miles of single line, were constructed by a company which obtained Parliamentary powers in 1877 and commenced to run horse cars in September, 1878. The Nottingham corporation, i. e., the city, had the option of purchase at the end of twenty-one years, or on July 23, 1898, but it came to an arrangement with the tramway company by which the system was handed over on October 16, 1897. The sum paid for the system was £81,500 ($396,620).

The corporation immediately considered the question of necessary extensions, applied to Parliament in the session 1898–99 for powers to reconstruct the existing tramways, and proposed to extend to a total mileage equal to 40 miles of single line. The bill for the reconstruction and extension of the tramways was passed by Parliament in August, 1899.

ESTIMATED COST OF CONSTRUCTION.

The estimated cost of the new system, exclusive of the purchase price of the old, was £585,000 ($2,846,903), but this amount also included the cost of repaving the whole width of many of the important thoroughfares through which the tramways pass and also a street improvement amounting to £54,000 ($262,791).

NEW POWER STATION.

The new power station, the contract for which was let to a local contractor, will not be ready for another year; but the finished section of the line, a run of 2 miles, which was opened to the public on January 1 this year, is at present operated from the electric lighting station from a 700-horsepower steam generator, Willans engine, and Siemens multipolar 500-volt generator. Two of these plants are at present fixed. A third will be installed by the end of the year. These plants will, it is estimated, run all lines necessary until the new station is ready, when they will be used for lighting purposes. The boiler house is to be 240 by 53 feet and has room for sixteen boilers 30 by 8 feet working at a pressure of 160 pounds per square inch. Vicar mechanical stokers will be fitted, and there will be storage room for 300 tons of coal. The engine house is to be 206 by 40 feet and will hold twelve 700-horsepower steam generators, Willans compound central valve engines, and Siemens multipolar generators.

PERMANENT WAY.

The rails, supplied by Messrs. Bolckow, Vaughan & Co., of Middlesborough-on-Tees, weigh 107 pounds to the yard, and are of the steel-girder type. They are 7 inches deep, 60 feet long, and no difficulty is experienced in handling them. The joints are designed to give, if possible, absolute rigidity. The fish plates weigh 77½ pounds per pair, are each 2 feet 7 inches long, and are secured to the rails by eight bolts 1 inch in diameter. The soleplate weighs 52 pounds, is 2 feet 6 inches long, 8 inches wide, three-fourths of an inch thick, and is secured to the bottom flange of rail by four bolts, seven-eighths of an inch in diameter. The nuts are of the lock-nut type. The nuts and bolts are supplied by Messrs. Ibbotson Brothers (Limited), of Sheffield. The bonding is double, of the crown-bond type, and is placed between the fish plates and the rails, being protected by the former. Cross bonds from rail to rail are fixed every 40 yards. The long bonds are to pass the points and crossings, and the cross bonds are of the Chicago type. All the points and crossings are curved. No straight ones are used. These are made by Messrs. Askham Bros. & Wilson, of Sheffield.

PAVING.

There is a concrete foundation laid for the rails, 6 inches thick, of Portland cement concrete, 6 to 1, and the greater portion of the line now complete is paved with granite. On the other sections, however, a large quantity of Australian hard wood will be used; £17,000 ($82,731) worth of this has been purchased. The permanent way has been entirely constructed by the staff of the corporation.

POLES.

The route consists for the most part of wide roads, and center-pole construction will prevail. The district is hilly, but the gradients are not very severe, a short length of 1 in 14 being the steepest. The poles have been supplied by Messrs. Spencer & Co., of Wednesbury. Every alternate pole is fitted with an arc lamp. The poles are let in to a depth of 6 feet.

TROLLEY WIRE.

The trolley wire is of hard-drawn copper, 0.409 inch in diameter. Most of the trolley wire used up to the present is made by the Birkenhead Wire Works Company, of Birkenhead. The overhead work generally is in the hands of Messrs. R. W. Blackwell & Co., of London.

CARS.

The double-deck cars will be used, except on one section, which will have a gradient of 1 in 10 and 1 in 12, each gradient about 400 yards

long. The contract for 57 cars was placed with Messrs. Dick, Kerr & Co., of London. The cars are arranged so as to have the staircase reversed. The seating capacity is 56 (22 in, 34 out), and each car is mounted on a 21 E Brill truck, with a 6-foot wheel base. The wheels are made by Messrs. Miller & Co., of Edinburgh. Each car is equipped with two motors capable of giving 25 horsepower each at a speed of 8 miles per hour. The motors and controllers are made by the British Electrical Manufacturing Company (Limited), of Preston. The controller is of the usual type, and a reversing switch is provided at each end of the car, interlocked with the series parallel switch, so that the reversal can not be effected except when the current is off. The trolley standard and pole are of the swiveling arm type of Messrs. Blackwell & Co.'s latest inclosed spring pattern, and each car is lighted by 10 lamps. There is also a headlight at each end of the car, each fitted with two lamps and so arranged that whichever circuit is closed one lamp in each headlight and three lamps in the car shall be on. Illuminated destination boxes are provided at each end of the cars. Both hand and Spencer's patent slipper brakes are fitted, and besides these brakes, the car can almost instantly be stopped by reversing the motors. The interior of each car is paneled with oak, with beveled mirrors. The cars cost about £600 ($2,920) each.

FEEDER CABLES.

These are supplied by the Callenders Cable and Construction Company, of London, and are insulated with vulcanized bitumen. These cables are run in vitrified stoneware conduits supplied by the Albion Clay Company, of Woodville. There are three pairs of feeders to the present section of about 2 miles. The feeders and sectional pillars have been designed by the Callenders Cable Company, and the former are so arranged that in case the insulation of the line feeder breaks down the switches can be reversed, so that the return feeder takes the place of the line feeder.

BRITISH VERSUS AMERICAN TRAMWAY BUILDING.

The practical reconstruction of the system on an electrical basis was begun in April, 1900; 2 miles of double track were in operation in January, 1901; an additional section of 4½ miles of double track is expected to be ready for use in June this year, and the whole contemplated system as above, 20 miles of double track, in four years from now.

Two things will strike the American public as exceptionally notable in connection with this work, viz, the enormous expense involved and the equally astounding length of time required to complete the rather modest system. It should be added that instead of beginning con-

struction at or near convenient railway tracks, work so far has actually been begun at the termini, all of the heavy material being hauled by horses.

S. C. MCFARLAND, *Consul.*

NOTTINGHAM, ENGLAND, *March 10, 1901.*

MUNICIPAL SOCIALISM IN GREAT BRITAIN.

(From Monthly Consular Reports for July, 1902.)

For some years past there has been a quiet but gradually increasing development of a certain phase of socialism in Great Britain. Reference is made to what is generally known as "municipal trading," and sometimes, and more correctly, as "municipal socialism." The first appellation is rather a misnomer at the existing stage of the movement. Municipal socialism does not mean a division of private wealth or property "share and share alike," but the ownership and operation of certain undertakings and enterprises (in America generally described as "public utilities") by the municipality for the public good, as claimed. As generally explained, the enterprises within the proper sphere of municipal socialism are "public necessities." But here arises the question, Where is the line to be drawn? This line is by the great majority of advocates of the system drawn at those enterprises and undertakings which by their very nature are essentially public or semipublic in their functions, and which are of necessity more or less monopolies—as, for instance, street railways, waterworks, gas lighting, electric lighting, and electric power. Incidentally, it may be mentioned that the domain of "national socialism" has been entered into by the British Government by its ownership of the telegraph system and by its proposed gradual absorption of the telephone system; and a movement has sprung up for the nationalization of the railroads, and even of the coal supply, as well as of storage of wheat for use in case of war.

In 1875 the capital invested in municipal undertakings in Great Britain was $465,000,000, while in 1900 there were $1,500,000,000 invested.

There are now in Great Britain 931 municipalities owning waterworks; 99 owning the street railroads (or "tramways," as they are called here); 240 owning the gas works, and 181 supplying electricity. Most of these are in England. Municipalities were not allowed to work the tramways until 1896. It is estimated that half of the gas users in England use municipal gas. In a number of places—Liverpool among them—the municipalities supply electricity for lighting and power, while the gas supply is still in the hands of private corporations. In the case of Liverpool the gas company is quite willing

to sell to the municipality, but the latter will not buy; first, because under the charter of the gas company the municipality would be compelled to pay a perpetual dividend of 10 per cent to the stockholders; and, secondly, because it is believed that in the near future electricity will practically supersede gas as an illuminant.

The municipalities of Leamington and Harrogate own Turkish baths, two of the best at present existing in Great Britain, and Harrogate also gives fireworks displays at municipal cost. Glasgow, like Liverpool, owns its waterworks and trams, and provides municipal lectures. Glasgow has quite recently reduced the fares on the tram cars, so that there are now not only half-penny (1-cent) fares, but a distance of 2½ miles can be traveled for 2 cents. Universal penny (2-cent) fares will probably shortly be introduced in Liverpool. The "transfer" system, as prevailing in America, is not used in Liverpool, nor in any other British municipality, so far as I know. Glasgow was the first city to establish a "municipal palace." Manchester owns shares in its ship canal. Out of its municipal tramway profits, Sheffield has appropriated $75,000 for the erection of shops and business premises, which it will rent. Quite recently the northern townships outside of London bought the well-known Alexandra Palace, where the municipal authorities maintain an auditorium and give organ recitals and theatrical, military band, and variety entertainments of all sorts, and industrial exhibitions. Torquay owns a rabbit warren; Colchester possesses an oyster fishery; St. Helens (a chemical center in this consular district) supplies sterilized milk; Hull owns a crematory; Doncaster and Chester own race courses (the former actually managing the races); Bournemouth owns one of the finest golf courses in great Britain; West Ham, a borough of London, owns a stone-flag factory, and Bradford owns a hotel, as does also Liverpool (on its waterworks property in Wales). Bristol has municipalized its docks and harbor, at a cost of between $10,000,000 and $15,000,000. The docks of Liverpool are municipalized in a modified way. The system is peculiar to Liverpool. This vast estate, valued at several hundreds of millions of dollars, is administered by a public trust, nearly all the members of which are elected by those who pay dock dues, and the profits, after deducting expenses and payment of interest on capital account, go to improvement, and not to the benefit of a private corporation. The probability is that the London docks will before many years be managed under either the Bristol or the Liverpool plan. Nottingham, in addition to owning parks, markets, artisan dwellings, baths, and a hospital, has bought a castle and a forest, and has a natural history museum and a school of art, and was the first municipality in Great Britain to have a university college. The last item gives occasion for the statement that several English cities have within the last year or so taken up the question of local universities.

Birmingham has established one, and Liverpool will shortly follow suit.

Liverpool is one of the foremost cities in municipal socialism. It owns the waterworks (one of the best systems in the world), it operates the street cars, it supplies the electric light and power, it has one of the largest and best public-bath systems anywhere and proposes to erect the finest Turkish bath in Europe; it provides public laundries for the poor districts, it furnishes flowers and plants for the windows in the slums, it sells sterilized humanized milk for the children of the poor at cost price, it has a salaried organist to play its famous municipal organ, it gives municipal lectures, and all these in addition to the usual undertakings of municipalities, such as parks with concerts, technical schools, etc. But the greatest socialistic undertaking by the Liverpool municipality is that of providing dwellings for the very poor, the dispossessed tenants of demolished insanitary dwellings of the slums.

The one great predominating question in connection with municipal socialism is the "housing question"—that is, the demolition of "slums" and insanitary dwellings and the erection by the municipality of suitable dwellings in place thereof. Americans who have never been here can have but little conception of the terrible conditions existing in many of the large cities of Great Britain as to the housing of the very poor. This condition is a heritage of former social and economic conditions, as well as of feudal land laws, and of the past indifference both of the municipalities and of Parliament, as well as of the public generally, even, it may be said, of philanthropists. But heroic efforts are now being made in many of the large cities, and Liverpool is in the front rank in the efforts to remedy this deplorable condition of affairs. Many difficulties have been confronted and overcome which at first were thought to be insurmountable, and these in addition to the perplexing moral and social questions involved. One great difficulty is that of compensation to the owners of insanitary property. In England the doctrine of "vested rights" is generally held very tenaciously. London has spent nearly $15,000,000 in clearing away insanitary property. In some districts of London it has cost from $1,500 to $2,500 for every family turned out. These large sums refer only to the clearances of the slums and to the compensation of the landlords, and do not include the amounts spent on the construction of new municipal houses. An agitation is being raised against the past generous compensation of owners of insanitary property, and it is claimed that under the present act of Parliament these owners can be prosecuted for allowing their property to become insanitary.

Another great difficulty has been the question of providing an adequate number of suitable municipal dwellings ready for occupancy at the same time that the unfortunate dwellers of the slum houses are dis-

possessed of their tenancy. Inattention to this necessity has called forth indignant protests in the large cities of Great Britain where the municipal scheme has been adopted as a solution of the slum problem. Glasgow, for instance, is said to have had at one time 50,000 people turned out of their homes by the corporation (of course, not all together), while it only provided housing accommodation for 7,000. In the initial stages of the municipal housing scheme in Liverpool, the same difficulty presented itself, but the "housing committee" of the corporation have recently pledged themselves that they will not undertake any scheme of demolition until they have provided adequate accommodation elsewhere for the dispossessed tenants. Under the present act, municipalities are compelled to provide substitute accommodations for at least 50 per cent of the dispossessed occupiers of slum property. The act under which municipalities demolish insanitary areas and erect dwelling houses seems to be of a most comprehensive character. It not only authorizes a municipality to construct a house, but it "may include a garden of not more than half an acre, provided that the estimated annual value of such garden shall not exceed £3" (say $15). And the municipality, if it builds a cottage, can "fit up, furnish, and supply the same with all requisite furniture, fittings, and conveniences."

There are two principal slum areas in Liverpool—one in the north end of about 383 acres and another at the south end of the city of about 100 acres. Most of the houses in these two districts are structurally insanitary. There are rows of them built "back to back." There are other districts where houses have been made insanitary by overcrowding and the habits of the people. The original number of structurally insanitary houses, when the corporation commenced operations, is estimated to have been about 22,000. Of this number the corporation has demolished about 8,000 and private owners and builders have demolished about 4,000 more. There are still about 10,000 insanitary house to be dealt with. The average number of persons in these insanitary houses is five per house. Slum houses in Liverpool are generally of three rooms, one above another, although, as a rule, the third or upper room (really a garret) is seldom used. Under an act applicable to Liverpool, passed in 1864, compensation is paid to owners of insanitary property which is demolished, such property having been condemned on a presentment of the grand jury upon a report of the medical officer of health. The corporation is also using the powers conferred upon it by a general act passed in 1890 providing for the "housing of the working classes." This act provides for compensation, as a rule; but still, under a certain provision of the act, there can be a "closing order" against any house which is in a state so dangerous or injurious to health as to render it unfit for human habitation. If, on receipt of a closing order, the owner makes the house fit for human habitation nothing more is done,

but should there be any default on his part an order for demolition may issue without any claim for compensation in case the premises are a danger to the health of the neighborhood. Under both the local act of 1864 and the general act of 1890, where the owner does not elect to retain the site the corporation must of necessity acquire both land and buildings. In some cases the land thus acquired is sold by the corporation to private individuals on which to build houses subject to certain restrictions so as to secure improved sanitary conditions. In other cases the corporation itself has built blocks of dwellings. Already nearly 900 tenements (or suites of rooms) have been erected, and 1,301 additional tenements (or suites of rooms) are in course of building or contemplated.

The Liverpool municipal dwellings are mostly in the form of blocks of tenement houses or "flats," three or four stories high. The local government board (a bureau directly under the control of Parliament) insists upon certain provisions to meet the necessity of dispossessed tenants before sanctioning demolition operations. Until 1899 there had been a conspicuous failure to meet this obligation, but since then the wants of dispossessed persons have been carefully foreseen and met. The present policy is to have blocks of dwellings ready within convenient distance, into which dispossessed tenants can go immediately they remove from the condemned property. Most of these tenants are dock laborers or a like class. It is claimed that Liverpool alone among the municipalities of England and Scotland has been successful in supplying a type of building within the financial means of the poorest of the poor. A single room can be had for as low as 45 cents a week. The rent of two rooms ranges from 60 to 80 cents; that of three rooms, from $1 to $1.10; that of four rooms (the largest suites provided), from $1.25 to $1.50. The fixtures are simple, but superior to those supplied in like dwellings by private landlords. In a few dwellings hot water is supplied. Others have gas, paid for on the "slot" principle. Two cents' worth is sufficient for four or five hours' consumption by one burner. Since Liverpool went into this enterprise it has paid $1,925,000 for demolished property, and, in addition, several pieces of land have been purchased, costing $335,825, for the erection of municipal dwellings. The cost up to date for construction alone has been $732,875. The total burden on the local taxation as the result of these combined operations amounts to 1¼d. in the pound sterling, or 3¼ cents on every $4.86. The rents paid are insufficient by about 2 per cent to meet the cost of the dwellings, without counting anything for a sinking fund, depreciation, etc. The present effort of Liverpool is to provide housing for the dispossessed tenants of condemned slums. It will probably take twelve years to complete this task. Then the question of providing better accommodations for artisans and mechanics will possibly be faced. Liverpool,

it is said, owns more revenue-producing real estate than any other municipality in the world, its income from this source being about a half a million dollars a year.

The London county council has within a recent period taken hold of this "housing question" with a firm and comprehensive grip. There will not be as much compensation paid to owners of slum property as formerly. One scheme adopted by the London county council provides cottages for 8,000 people; another (and this is on an estate outside of the London boundary line) will accommodate 6,000 people; and a site has been bought where 42,000 are to be accommodated in pretty little cottages, with gardens. London undertakes to provide for the artisan class as well as for the "casual," and in that particular it is in advance of Liverpool.

Strange to say, the housing question is growing to be an acute one in the country districts, as well as in the British municipalities. It is claimed that one of the reasons why the rural population flock to the cities is because many of the great landowners not only fail to erect decent residences for the laboring people, but some of them actually refuse to allow cottages to be erected on their estates, either because of æsthetic reasons or because the laborers' cottages would have a tendency to depreciate the value of the estates to prospective wealthy purchasers.

Liverpool boasts of having one of the best street railroad systems not only in Great Britain, but in Europe. The corporation got control of the system in September, 1897, and has substituted electric for horse cars. At the date named, there were 68 miles of tracks within the city and about 7 miles in the surrounding district connecting therewith. There were then 287 cars, 156 omnibuses, and 3,623 horses. The municipality paid $2,836,875, the purchase price covering tram cars, omnibuses, good will, vested rights, etc. In November, 1898, an experimental electric line 5 miles in length was opened. The work of reconstructing the new lines commenced in January, 1899, and, by the end of 1900, 100 miles of lines were completed, including extensions. The overhead-trolley system is used. Of the entire 102 miles of the track laid down, only 6 miles were laid with American rails and 5 miles with German rails; the remaining 91 miles were laid with rails of English manufacture. The prices paid were: For American rails, $42.58 per ton; German rails, $29.79 per ton; and British rails, $34.06 to $44.39 per ton. The first 15 motors and 15 "trailer" cars for the experimental line were obtained from Germany. Subsequently 15 Brill cars were obtained from the United States. The balance of the cars are of English make. The prices paid were: German cars, $3,567.14 each; German "trailers," $1,275.02 each; American cars, $3,065.89 each; English cars, $2,384.58 to $2,856.63 each. In reply to my inquiry as to whether there has been any discrimination in favor

of British rails, cars, electrical equipment, etc., as against American, German, or other foreign make, and whether the contracts were made under competitive bids, I am officially informed by the manager that tenders were invited and the most advantageous were accepted.

Most of the cars in use and all those now being made are of what is known as the "standard Preston type." This car is shorter than most American cars, and has a "reverse" staircase for top outside seats. Each car accommodates 22 inside and 34 outside. In fine weather the outside of cars and omnibuses is preferred in England to the inside. Experience has shown that the style of car used in Liverpool gives the most satisfaction to the British public. There are no "summer cars" of the American type here; the weather is too variable. The fares charged are by distance. Two cents is the lowest fare, for which 3 miles can be traveled; 5 miles 308 yards can be traveled for 4 cents, 7 miles 287 yards for 6 cents, and 8 miles 495 yards for 8 cents. The total traffic receipts during 1901 were $2,341,915. The percentage of working expenditure to gross receipts is 63.7. Parliamentary powers are being obtained to devote not exceeding one-third of the net profits to the relief of the rates; the balance of net profit goes to a renewal or reserve fund. The total number of employees is 2,293, of whom 646 are drivers, 595 conductors, 117 inspectors, etc. Drivers and conductors work ten hours per day. Under the old system, before the municipality took charge of the tramways, the average working-day of conductors and drivers was fourteen and one-half hours. They are now paid 12 cents per hour. After twelve months' service with merit, 24 cents per week extra is paid for each period of ten years of approved service. Under the old régime, drivers received $6.80 per week, increasing in eighteen months to $8.51 per week, and conductors received $5.95 per week, increasing in three years to $6.80 per week. The rate of pay under the old régime was for seven days a week. The system already extends outside the city boundary, and it is proposed to connect it with lines of a new enterprise, in which American capitalists are interested, known as the South Lancashire Tramways Company, and which will form a network of street-car lines between Liverpool and important towns in South Lancashire.

Several municipalities have adopted what is known as the "direct" system of labor as distinguished from the "contract" system. This is notably the case in London. The county council of London employs workmen on a principle which is "based on the rates of wages and hours of labor recognized by associations of employers and trades unions and in practice obtained in London." There is also a stipulation that "where in any trade there is no trade union, the council shall fix the rates of wages and the hours of labor, and shall from time to time revise the same as may be necessary." A great deal of opposition has sprung up against this system of direct employment, and the opposi-

tion has made much capital of the alleged fact that the bricklayers employed by the London county council under the above conditions only lay down one-half or even one-fifth as many bricks per day as contractors get laid even by union labor. On the other hand, the claim is made that the municipality gets its work done cheaper in the end because it does not have to pay profits to contractors and other middlemen. Speaking generally, nearly all of the work done by municipalities, even where municipal ownership prevails, is by contract, but, as a rule, these contracts are given out subject to what is known as the "fair-wage" condition, which is substantially the wage condition adopted by the London county council. In connection with this question of direct labor it is interesting to note that many British railroad companies adopt it, they making all their engines and rolling stock themselves, and this, by the way, is given as one of the reasons why the outside British makers of locomotives are not able to meet foreign competition, because they have not got patronage enough to warrant them in keeping their plants up to date.

One of the greatest examples in England of "direct" labor is furnished by the Liverpool dock board. This board formerly did all its work itself. The question of cost did not primarily come in, but the principal reason for direct labor was the belief that it would not be safe to trust contractors with the kind of work to be performed. For two or three years past, however, a great deal of work has been given out by contract, and it is claimed that the contract work is done just as well as that performed by direct labor, and much cheaper. One of the greatest objections urged against the employment of direct labor by municipalities and large corporations is that the tendency is to perform the work "too well"—that is, to make it unnecessarily heavy and substantial without any discrimination being shown as to work that can be lightly done, the object being to "string out" the job. And the further objection is made that when a municipality or public trust has its work done by direct labor the employees do not work nearly so hard as do employees of private contractors, and, as a rule, get more pay than those who work for contractors.

The advocates of municipal socialism in Great Britain have been gradually increasing their demands, and now a point has been reached where even many supporters of that system feel called upon to cry a halt. Within the last year or two an active opposition has grown up in Parliament to municipal trading. There are two schools of thought among municipal socialists. In the first school are those who not only advocate the municipalization—and in certain lines the nationalization—of such enterprises as waterworks, street railroads, electric lighting and power supply, and railroads, but who favor the public control of all departments of human production and energy—not suddenly, but by degrees—and the abolition in time of the private

manufacturer, trader, or tradesman. These form the extreme school of national and municipal socialists. Their number is possibly increasing, but, without a doubt, their opponents are in an overwhelming majority, even among those who favor the present stage of municipal socialism. Speaking generally, the enterprises of municipal socialism in Great Britain have been within well-defined lines. In a recent article in a London periodical (The Queen, March 8, 1902), the Hon. Lionel Holland says:

> Those, finally, who contend that municipal trading trenches upon the proper sphere of individual enterprise betray a singular want of the faculty of discrimination. There is a class of undertakings which inevitably tend to become monopolies, when the public loses the advantage of competition--the great merit of private enterprise—which concern the satisfaction of wants common to the community, when, by resigning their supply to private speculators, the community is deprived of effective control over matters vital to its convenience; whose functions are of a semipublic nature, and require the sanction of the law to be put into operation. Such undertakings are clearly differentiated from the ordinary operations of private traders; they can only with justice and advantage to the community be vested in a representative body, to be conducted for the profit and convenience of the public.

The above may be accepted as an accurate definition of the limitations laid upon most of the experiments in municipal socialism so far undertaken in Great Britain, although there are plenty of examples indicating the all-embracing programme of the advanced municipal socialists.

It has got to be quite the fashion in England to laud the municipality as being of far more vital concern to the people than Parliament. The claim is made that local government in Great Britain is as nearly ideal as it can be. One of the greatest advocates of municipal socialism, Mr. George Haw, in a recent standard work, Municipal Government the Hope of Democracy, says:

> Neither America nor France, under republics, excels our municipal code. We have the largest franchise and widest powers. Americans themselves admit that our municipal institutions are fifty years in advance of theirs.

A number of changes in the municipal code of this country are being suggested, but it appears that most of the apostles of municipal socialism concede that the present code is amply sufficient for the widest development of their views. Mr. Haw, in his work just quoted, says that "the fault with us is that we have not learned to make full and good use of what we have won." Speaking of the democracy of Great Britain, he adds: "It has now no need, as of old, to look to Parliament for reform, but to look to itself."

Municipalities are held by an ever-increasing number of people in this country to be the legitimate and most practical medium for the

development of the principles of socialism, and voluntary organizations for this purpose are being discarded, the existence of statute law being deemed necessary, both to do and to restrain, to insure success.

The claim is made that the best governed towns in Great Britain and the towns that have the least taxes are those where municipal socialism prevails. But this claim is strongly controverted, especially as to ultimate results; and the opponents of municipal socialism charge against that system a tendency to extravagance, jobbery, official indifference, and lethargy, and the broader charge is made that the system contracts and paralyzes individual effort and enterprise. Yet it should be kept in mind, in connection with this criticism, that municipal socialism has in some cases been embarked upon almost out of necessity—as, for instance, in the case of the housing of the poor in Liverpool, where private enterprise has not only failed absolutely to solve the problem, but has not even alleviated its most crying evils.

Two observations are appropriate to be made in conclusion: Speaking generally, municipal government in Great Britain is honest, intelligent, and energetic; and, as a rule, politics has but little to do with the engagement or retention of civic employees.

JAMES BOYLE, *Consul.*

LIVERPOOL, ENGLAND, *April 25, 1902.*

MUNICIPAL SOCIALISM: LATEST DEVELOPMENT IN GREAT BRITAIN.

(*From Monthly Consular Reports for July, 1903.*)

Since the publication of the consular report on "Municipal socialism in Great Britain" of April 25, 1902, the question has become a live topic in this country, in Parliament, before economic associations and municipal councils, and particularly in the press. The following article is from the Liverpool Daily Post of April 7. It states the question fairly from a neutral standpoint, and the information contained therein may be taken as supplemental to that given in the consular report above referred to; and the article is probably the most reliable and up-to-date report in a brief form of the development of "municipal trading" in Great Britain which can be obtained. In this reproduction of the Daily Post's article the amounts have been turned from pounds sterling into American dollars:

The subject of municipal trading is one which has aroused considerable interest of late, and many arguments have been adduced for and against it by its advocates and opponents. Those who are opposed to municipalities engaging in reproductive undertakings say that such action discourages private enterprise and paves the way for socialism. They assert that municipal bodies have not the special knowledge which is required in order to conduct such undertakings to a success-

ful issue. They fear that if municipalities engage in trade the time which ought to be devoted to the proper duties of administration will be frittered away on trading and manufacturing details. It is their opinion that to put town councilors in the position of having to regulate the wages of their electors would have a tendency to set wages against votes, and would raise very difficult labor questions. And they state the expenditure upon such undertakings increases the burden of the rates, which is already unduly heavy.

In reply to this indictment the advocates of municipal trading deny that it encroaches upon private trading, as it only deals with works of public utility, which private capitalists either can not accomplish or can not do so well. They say that a committee of town councilors, specially selected for their business ability, and having a highly trained permanent staff under them, are quite as competent to deal with matters such as gas, water, and tramways as the board of directors of a gas company, a water company, or a tramway company; and they show that whereas in the case of a company the profits go into the pockets of the shareholders, many of whom are nonresident and have no connection with or interest in the town, in the case of a municipal enterprise the profits go into the borough fund in alleviation of the rates. They regard the suggested labor difficulties as chimerical, as no town council has any control over the standard rate of wages, and it is in the last degree improbable that the ratepayers would consent to a higher scale being paid. They point out that gigantic trusts are being everywhere formed with the object of enriching their founders and shareholders at the expense of the general public, and that municipal enterprises are alone able to stand between these monopolists and the townspeople, securing to the latter the full benefit of the corporate investments and giving them, through their representatives in the council, effective control of them. And they affirm that such undertakings seldom permanently increase the burden of rates, and where they do they confer such benefits upon the town as add greatly to the general wealth of the community.

It is not our intention to enter the lists on behalf of either of the parties whose views we have endeavored impartially to state. The correct view, it appears to us, lies midway between those who assert that all municipal trading is wrong in principle and those who would municipalize all the common needs of life. There is a general consensus of opinion that the supply of water, lighting, and locomotive power within the borough should be under the effective control of the ratepayers; to which may be fairly added slaughterhouses, bath and wash houses, lodging houses, market halls, and, in the case of seaports, docks, piers, and quays. These are matters intimately bound up with the commercial prosperity of the town and the health of the inhabitants, and therefore may well come under the management of the town council.

But no general rule can be laid down as to what enterprises may be engaged in with advantage to a town and what may not; the particular circumstances of each town must decide the question for that place Several towns, such as Doncaster, Chester, and Lincoln, are the owners of race courses, from which they derive a considerable income—sufficient, in the case of the first-named town to enable the corporation to do away with the borough rate; but probably if other towns were to attempt to follow their example, the result would be disastrous.

Health and pleasure resorts may and do profitably invest money in schemes which will attract the visitor and pleasure seeker. Thus, the corporation of Bath owns the hot springs, nearly all the cold springs, the famous Roman baths, and the pump rooms, and has recently extended the grand pump room with a Roman promenade at a cost of $150,000; Bournemouth owns the winter gardens and golf links, and provides an excellent orchestra of more than local fame; Harrogate draws a large revenue as proprietor of the royal baths and springs, the winter garden and theater, and the royal spa concert rooms and gardens; Leamington owns its celebrated baths and pump room, which are patronized by thousands who frequent this charming town every year; Southport draws about $17,500 a year from pleasure boats on the lakes in the marine parks, and considerable receipts from such amusements on the beach as a switchback railway, bicycle railways, tobogganing, and the "aerial flight," and Brighton is the owner of the royal pavilion and the local aquarium.

Many towns engage in farming, in connection with their sewage farms, with profitable results. Nottingham has a large sewage farm some miles out of the town which yields from the annual sale of live stock about $20,000 and from butter and milk about $12,500. Wolverhampton draws an income of about $32,500 yearly from its sewage farm, which practically covers the expense of its maintenance, and Birmingham sells from its sewage farm stock, wool, crops, and milk to the value of over $125,000 a year.

The corporation of Colchester owns the famous Colne oyster fishery, from which some 3,000,000 oysters are taken every season to delight the palates of epicures. Bradford has a hotel in connection with the public markets, under the direct control of the corporation, and Plymouth owns the Royal Hotel and the adjoining theater.

Birkenhead (in Cheshire, opposite Liverpool, on the Mersey River) is the owner of the ferry rights over the Mersey to Liverpool, and maintains a fleet of 12 steamers, the profits from which relieve the rates to the extent of about $50,000 yearly.

York owns the Foss Canal and also a fleet of steam tugs for the towage of vessels between Hull and York. Manchester is the principal shareholder in the Manchester Ship Canal, having invested $25,000,000 in that great undertaking. The corporation of Bradford has erected a "conditioning house" for the testing of wool, yarns, and cloth, fitted up with the best machinery for the testing of woolen goods, the income from which is more than sufficient to meet the expenditure; a plant has been laid down for the manufacture of paving slabs from the clinker produced by the furnaces of the refuse destructors, which, mixed with cement and faced with granite chippings, forms an excellent material for this purpose, and a large quantity of valuable fish manure is made from fish refuse received at the depot.

Liverpool, like Bradford, makes an artificial stone from the clinker produced by the furnaces of the destructors, which is being used in the construction of model dwellings for the working classes. Leicester also utilizes its clinker in the manufacture of paving slabs, and maintains three sewage farms, which yield an income of about $110,000 annually.

In Bristol practically all the work connected with the street and cleaning department is done by the corporation's own workmen, and in the corporation workshops carts and barrows are built and repaired,

harness is made and mended, horses are shod, and a large variety of work is done for other departments. Glasgow has long led the way in municipal development, and its communal services to-day touch the interests and affect the well-being of a greater number of citizens than do similar institutions in other cities. More than 10,000 persons are employed in the various departments of the Glasgow corporation, and all the common services have been municipalized, except the cemeteries.

No fewer than 228 towns own public market places and halls within their boundaries, producing an aggregate annual income of $2,760,000 and a net profit in relief of taxes of $418,910. Liverpool's markets bring in an average yearly income of $160,095, and when all outgoings have been paid, there remains a sum of $72,860 to be applied in aid of the taxpayer's burdens. Manchester owns 15 markets, which contribute an annual average sum of $75,000 in aid of rates. The ratepayers of Nottingham, Leicester, and Blackburn benefit in each town to the extent of $20,000 annually from their market places, while the markets of Norwich yield $15,850, of Derby $13,730, of Oldham $13,045, of Warrington $12,000, of Bolton $11,815, of Wolverhampton $10,995, and of Swansea $10,110 toward the rates, not to mention many others below $10,100.

Even the most determined opponent of municipal trading must admit the success that has attended the municipalization of tramways. In every instance where the control of a tramway system has been transferred from a company to the local authorities, the change has led to a better service, cheaper fares, increased traffic, and larger profits, while the position of the employees has been greatly improved in regard to pay and the hours of labor. We may take Liverpool as a type of many others. In 1897, the last year of the old company's management, the number of passengers carried was 38,409,084, the receipts were $1,453,715, and the mileage was 6,013,182 miles. In 1901, under the management of the corporation, the passengers had increased to 101,108,710, the receipts to $2,341,915, and the mileage to 10,970,063. After providing for interest, sinking fund, depreciation, and all working expenses, the sum of $88,035 was transferred in aid of the rates for the year 1901. In the following year the sum thus transferred was $125,825. The Leeds tramways, which were taken over by the city council in 1884, have for the last four years contributed an annual average sum of $204,380 in relief of rates, and the Hull tramways yield about $115,000 annually for the same purpose. The net annual profits earned by the tramways owned by corporations, and available for relief of taxation, are considerably over $500,000 and are increasing with great rapidity.

The supply of electricity is a department of municipal enterprise which, in some towns, owing to many costly experiments, has not yet reached a paying stage, but in others a considerable profit is being made. Liverpool last year was able to make a contribution to the general rate of $60,145 from this department; and Manchester showed a net profit for the year ending March 31, 1902, of $38,175. Eight other English towns make an annual net profit, after paying interest and sinking fund, of over $5,000—namely, Leeds, $18,365; Nottingham, $18,125; Sheffield, $16,255; Bolton, $10,330; Southport, $7,730; Leicester, $7,090; Lancaster, $5,215, and Chester, $5,085. These examples would seem to show that, except where special and temporary circum-

stances exist, it is quite possible to make this department of municipal enterprise as profitable as any other.

One hundred and ninety-three towns have their own water supply, yielding an annual average net profit of $450,640. This does not seem a large return on a capital of $250,000,000; but it should be stated that the gross yearly profits are over $10,000,000, out of which an average sum of $7,600,820 is paid as interest on borrowed capital and $1,975,990 toward repayment of principal, both of which sums would go to swell the dividends of joint stock companies if the supplies were in their hands. To obtain a higher rate of profit on the water supply would necessitate a curtailment of the quantity supplied, which obviously would not be conducive to the health and cleanliness of the inhabitants.

Gas is a much more profitable commodity than water, as the 99 towns that own gas works make an average net profit yearly of $1,974,125 in all. The rates of these towns are thus relieved to a very considerable extent, the Manchester gas works contributing no less than $250,000 to this object; Salford, $121,625; Nottingham, $120,900; Birmingham, $114,065; Leicester, $108,725; and Bolton, $104,660.

JAMES BOYLE, *Consul.*

LIVERPOOL, ENGLAND, *April 9, 1903.*

NOTTINGHAM MUNICIPAL TRAMWAY.

(From Monthly Consular Reports for January, 1904.)

The electric street-car service of this city is an illustration of what is possible, though not always accomplished, in "municipal ownership." Electric trams have now been in use here about two years. Previously horse cars and omnibuses served that part of the public which did not prefer to walk. The present electric system is well nigh perfect. The cars are large double-deckers, kept scrupulously clean, and run at intervals of three to six minutes at the rate of 8 to 10 miles an hour. Practically, the entire city is now covered. The fares, varying with the distances ridden, are about 2 cents a mile. The length of route is now 15½ miles, with 30 miles of track. During the year just passed the cars carried nearly 25,000,000 passengers—a traffic equal to the transportation of the whole population (250,000) twice a week throughout the year.

The receipts for the year were £115,223 ($560,733), of which the operating expenses were slightly over 50 per cent. The gross profit was 11.41 per cent of the capital employed. After deducting loan charges, the net profit amounted to £30,852 ($150,141), from which the rates received £18,000 ($87,597) and the reserve fund the balance. During the two years the electrical railway has contributed £30,000 ($145,995) to the city rates and has established a reserve fund of £20,156 ($98,089.17).

The power for the operation of the street-car system is provided by the city's electric supply plant. The charge is 1¼d. (2½ cents) per unit.

Taking due account of depreciation and unexpected charges, it is believed that the tramways undertaking will yield a substantial yearly profit, to go toward reduction of municipal taxes, besides giving the public a highly satisfactory service at low fares.

FRANK W. MAHIN, *Consul.*

NOTTINGHAM, ENGLAND, *September 14, 1903.*

PUBLIC UTILITIES IN LEEDS.

(From Monthly Consular Reports for June, 1904.)

As the subject of the municipalization of public utilities is at the present time attracting close attention in American cities, especially in Chicago, the results of such a policy in English cities will be pertinent and interesting to the American people. Leeds is an example in this way.

The following is the financial result of the operation of the street railways, or tramways, as they are called in that city, for the twelve months ended March 25, 1903 and 1904:

Receipts and expenditures of the city-owned street railways of Leeds, England, for years ended March 25, 1903 and 1904.

Items.	1903.	1904.
Receipts from—		
Electric traction	$1,273,213.17	$1,349,454.83
Steam traction	2,460.92	.....
Manure	15.88	14.92
Rents, advertisements on cars, etc	11,034.75	12,543.13
By discounts	1,427.83	1,522.34
Total	1,288,152.55	1,363,535.22
Expenditures for—		
Generating station	62,254.08	64,878.10
Less amount from lamp committee for supply of current	3,304.61	4,154.73
	58,949.47	60,718.37
Traffic outlay, including salaries, wages, etc	358,309.74	363,624.43
Less amount received for ticket advertisements	.....	1,946.22
	358,309.74	361,678.21
Maintenance, cars, and equipment	125,268.89	116,328.98
Permanent way	68,670.79	107,129.80
General expenses	84,596.93	77,773.85
Engine haulage	9,495.25	.....
	706,291.07	723,629.21
Gross profit	582,861.48	639,906.01
Depreciation	68,547.54	72,289.72
Income tax (estimated)	13,249.68	28,550.83
Interest	129,605.51	126,845.40
Net profit	371,458.75	412,220.06
Redemption fund charges	69,922.66	128,545.49
Surplus	301,536.09	283,674.57

The gross income, it will be seen, is $1,363,535.22 and the operating and maintenance expenses $723,629.21, leaving a gross profit of $639,906.01. From this last sum are deducted various charges for depreciation, income tax, and interest, leaving a net profit of $412,220.06. And after redemption-fund charges of $128,345.49 were taken from this, a surplus of $283,674.57 was left and turned over to the city treasurer to be used in reducing the city taxes. This is the largest profit shown by the tramways in any city in the United Kingdom.

It should be remembered also that the fares on the Leeds tramways are 2 and 4 cents (American money), that advances in wages have been given employees the past year, and that every three months bonuses are allowed motormen who perform their duties without accident. So the public is benefited in two ways—by having low street-car fares and by a reduction in taxation.

Electric lighting is another public utility owned and conducted by the city of Leeds. The result of its operation for the twelve months ended March 25, 1904, as compared with the twelve months preceding, is given in the following table:

Receipts and expenditures on account of city-owned electric lighting in Leeds, England, for years ended March 25, 1903 and 1904.

Items.	1903.	1904.
Receipts from sales for lighting	$249,155.64	$324,711.88
Receipts from sales for power	23,071.34	43,290.20
Sundries		.96
Total receipts	272,227.00	368,003.04
Working expenses and costs incidental to change of system	94,062.02	127,251.52
Gross profit	178,164.98	240,751.52
Interest and sinking fund	171,436.50	224,079.24
Surplus	6,728.48	16,672.28
Units sold	4,448,650	6,871,186
Average price per unit	$0.0604	$0.058
Expenses per unit, including interest and sinking fund	0.059	0.0554
Surplus per unit	0.0014	0.0026
Capital expended during the year	808,616.94	394,132.52
Total capital expended to end of year	3,263,060.26	3,657,188.88

Appended is an analysis of the revenue of the department and other details:

Analysis of revenue derived from electric lighting, power, and heating by the city of Leeds, England, in the years ended March 25, 1903 and 1904.

Items.	1903.	1904.
LIGHTING.		
Number of 35-watt lamps installed at present date		234,263
Number of 35-watt lamps installed March 25, 1903	195,834	
Increase during the year		[a]39,429
Increase during previous year	[b]34,587	
Units sold:		
Private lighting	3,418,383	4,428,657
Street lighting	124,829	177,170
Total units sold	3,543,212	4,605,827

[a] Or 20.1 per cent. [b] Or 21.4 per cent.

Analysis of revenue derived from electric lighting, power, and heating by the city of Leeds, England, etc.—Continued.

Items.	1903.	1904.
LIGHTING—continued.		
Revenue	$249,155.64	$324,711.88
Average price	$0.0694	$0.0696
Units sold per lamp installed	19.99	20.88
POWER AND HEATING.		
Aggregate horsepower of motors installed at this date	.....	2,903
Aggregate horsepower of motors installed March 25, 1903	1,436	.....
Increase during the year	.....	[a]1,467
Increase during previous year	[b]761	.....
Units sold	905,438	1,665,359
Revenue	$23,071.36	$43,290.20
Average price per unit	$0.0252	$0.0256
Units sold per horsepower installed	837	782
Revenue per horsepower installed	$21.84	$18.88

[a] Or 102.2 per cent. [b] Or 109.6 per cent.

The net profits—$16,672.28—look small, but it must be remembered that $224,079.24 was deducted from the gross profits for interest and the sinking fund; besides, light and power were supplied at a moderate price.

The result of these two experiments in the municipalization of public utilities in Leeds will be found a profitable subject for study by American cities.

WALTER C. HAMM, *Consul.*

HULL, ENGLAND, *May 26, 1904.*

CITY-OWNED STREET CARS IN HULL.

(*From Monthly Consular Reports for July, 1904.*)

Hull offers a good illustration of the merits and demerits of the policy of municipalizing public utilities, a policy which has been extensively put in practice during the past two decades in the cities of England. The results of such a concrete attempt to solve the city transit problem must be interesting to cities in the United States, and it must help them to reach a decision on this important question.

The fact that Hull did not enter upon this policy until some years after other English cities had municipalized their public utilities, and so was able to benefit by their experience, makes the result here all the more pertinent. It gives the most modern example of the kind in existence.

It is now five years since the movement for city improvement began to take shape in Hull. The city had been considered for generations one of the most uninviting in the United Kingdom. Although it is the third port in England in exports and imports, does the largest

fishing business of any port, and is the chief place of entry on the east side of England for the commerce of northern Europe, little was known about it.

The city was visited by few tourists except those seeking the most direct route to the Norwegian coast; but as these are few, and English public opinion appeared to agree in deriding the city, foreign travelers avoided it. The location of the city has something to do with this isolation. It is situated on the Humber River, a broad estuary of the North Sea, which juts inland in a westerly direction about 30 miles. Hull lies on the left bank, some 20 miles from the mouth of the Humber River, which forms an unrivaled port for shipping. The facilities offered for commerce are superior to any other port in England. It has a depth of water of 35 feet even at low tide, and the rise and fall of the tides here vary from 15 to 20 feet.

But while the Humber gives Hull superior communication with the sea it has shut it off from the direct line of railroad travel to London in the south and to Edinburgh in the north. Coming from the south the traveler must stop on the right bank of the Humber and be ferried across, or make a long detour by way of Doncaster and Goole to reach Hull by rail. If the Humber were bridged or tunneled and Hull placed on the direct line of rail travel between London and the north, its period of isolation would be ended and the city would become one of the most widely known in England outside of London.

As a consequence of past policy Hull was left in the rear of every other city of its size in England. Up to five years ago no public improvements of importance had been undertaken in a generation. The growth of the city was slow and forced, mainly because of local conditions. Its streets were narrow and badly paved. Its system of city transit was antiquated and inadequate to the last degree. It was, perhaps, as uninviting a place as could be found in Europe. But with the advent of the mayoralty of Sir Alfred Gelder in 1898 a new policy was introduced. The wand of progress seemed to pass over the city and a transformation has taken place since which will surprise those who have not seen Hull in a decade. Broad avenues have been cut from the business center of the city to the corporation line; many new buildings have been erected; the streets have been paved in the best and most enduring manner; the car lines have been acquired and modernized; an unfailing supply of filtered drinking water has been introduced, and the dock systems improved and enlarged until the city to-day is one of the best, if not the best, provided with docks of any city in England. As a result, the city's trade and population have rapidly increased. The population is now fully 250,000, and the docks and business streets give evidences of a healthful and growing prosperity.

The result of this change which interests us most now is the munici-

palization of the street-car system. And it is with this—the manner in which it was accomplished, the mode of operation, and the success which has attended the scheme—that the present article is concerned.

Hull began the municipalization of its transit system at an unusually favorable time. The charters of the old companies were about to expire, so there were few rights and privileges to be acquired. The total outlay of money for this purpose was about $170,000. At the same date the city was entering upon an extended system of street improvements. The streets were to be repaved and widened and new avenues cut through the old part. It was thus possible to lay new tracks at the same time that new pavements were put down.

A statement of the street-car system would not be complete without a description of these city pavements. They are of the most enduring character and afford a foundation for the rails unequaled by anything of the kind that I know of in the United States. First a layer of chalk is put down 10 inches thick. Over this is placed an 8-inch layer of broken stone and cement in which the ties for the stringers are laid, and on this layer of cement are superimposed the blocks of wood or stone which form the pavement. The rails are of the center-groove girder pattern, weighing 96 pounds to the yard. This forms a track which for solidity and evenness can not be surpassed. Hull has now a little over 12 miles of such double track, and this number is being constantly added to.

One of the chief peculiarities of the Hull tram system is the double-decked car. All the cars, of which there are 116 in number, are of this pattern. In adopting the double-decker, however, Hull has only followed the style in use in every city in Great Britain and Ireland. Recent statistics show that of the 6,660 electric cars in use in the United Kingdom, 90 per cent are double-deckers and only 10 per cent single-deckers. In this way the seating capacity of the cars is more than doubled, the upper deck accommodating more passengers than the lower deck. The Hull cars are of two different dimensions, the smaller seating 22 passengers below and 35 on top. This, of course, compels a heavier style of car and longer platforms, both at the front and rear, so as to prevent congestion in loading and unloading. These cars cost here about $3,000 each without the cover over the roof, which is now being added to most of them.

It is often asked why the double-decker has never been adopted in the United States. Two or three reasons have been given for this neglect. One is the supposed confusion and delay caused on the platforms by passengers boarding or alighting from the car, part of whom enter or emerge from the interior and part from the upper deck. This objection has been greatly exaggerated. No such confusion, congestion, or delay is noticeable on the cars in Hull even during the most busy hours of the day. An investigation made of this question for

the Merchants' Association of New York by Mr. John P. Fox, and reported to the committee of engineering and sanitation, proved that this objection is untenable. It was shown by actual timing of the double-deck cars in Liverpool that the average time consumed per passenger in getting on and off was about one to nine seconds, whereas the length of stop per passenger in American cities averaged about two to eight seconds. The longer time in the United States is explained by the difficulty passengers have in reaching the platform in the crowded, single-deck cars, the consequent delay more than balancing any congestion from the meeting of two streams of passengers on the platforms of the double-deckers. This would seem to answer the first objection to the double-deck cars.

The second objection to the double-decker is that it is not adapted to the extremes of climate in the United States. In the heat of summer, it is argued, the passengers would be exposed to the burning rays of the sun, and in the winter to the cold blasts, and at all seasons to storms. This objection is apparently more tenable than the one based on alleged delay in loading and unloading. But it has been overcome by the roofing in of the upper deck with combined glass and wood covers. These protect the passengers from the weather as effectually as the inside passengers are protected. The roofs are of different styles and arrangements. They all have a fixed wooden framework, but in one pattern the side windows can be raised or lowered separately, while in the other pattern all the windows on both sides of the upper deck are raised and lowered together by a winch. The roof in both styles coils up like a roller-top desk, either in sections or all together. In one style of these the deck extends completely over both platforms, but in the kind used in Hull it is only a little longer than the body of the car. This inclosing of the upper deck would appear to overcome the climatic objection to this kind of car.

A third objection to the double-decker is the added weight and difficulty of handling them. How decisive this objection would be on roads in cities where there are heavy grades I do not know, but on level grades no difficulty is experienced. The cars are stopped and started as quickly and easily as the single-deck cars, and there are more slippery tracks to contend with in this country than in the United States, the fogs and rains causing wet and muddy rails much more frequently. The weight of these double-decked cars, with every seat occupied above and below, can not be much more than the weight of crowded single-deck cars run on nearly every American street railway during the busy hours of the day. So this third objection to the double-decker vanishes.

One of the chief merits of the double-deck car is that it offers a smoking compartment for men with every car. Very few women climb the stairs, although they are easy of ascent and descent, and

accidents from falling are so rare as to make them a negligible quantity. The "deck" is especially popular with the men, who can smoke as they will, even if women are present, the free circulation of air removing all offensive odors. Another merit of the double-decker is its uses as an observation car, the pleasure of riding so far above the street with an extended outlook being great.

Next to the style of cars, the chief distinguishing feature of the Hull tramway system is the cheapness of the fares. These are 1 penny (2 cents) on all lines and for all distances. The financial results of this low-fare system are equally interesting. During the latest twelve months reported on there were 10 miles of double track, or 20 miles of single track, in operation. The gross income was about $445,000; the cost of operation was about $233,000. This left a gross profit of $212,000, and, deducting interest on the investment and the sinking sum, left a net profit of $122,000, or an average of over $12,000 a mile of double track, which went into the city treasury.

The wages paid look low to an American. Motormen receive from $6.75 to $8.50 a week and conductors from $5 to $6.50 a week. But it must be remembered that house rents and some kinds of provisions are lower in England than in most American cities. This difference might make it necessary to add $2 a week to the wages of Hull motormen and conductors when comparing them with the wages of the same class of American workingmen. But as the total wages paid on the whole system was a little less than the net profits, after deducting interest and sinking fund, it is evident that wages could be doubled and still a small profit be shown. All the employees are of an excellent class, fully equal in intelligence and efficiency to those employed on any street car line. A day's work consists of ten hours, the cars being run from 5 a. m. to 11.30 p. m. The speed varies in different parts of the city, the maximum being 12 miles an hour. The overhead trolley is used.

The popularity of the system can be judged from the fact that during 1903, with 10 miles of double track in operation, there were 22,062,703 passengers carried. As Hull has a population of 250,000, this means an average of 88 rides for every man, woman, and child in Hull. The length of track is being constantly added to, and all the leading streets will soon have car lines.

These are the results of the municipalization of city transit in Hull. They give American cities a striking proof of the mistake they have made in surrendering their streets to private companies that operate the lines for their private benefit, and often to the detriment of the public. If the advocates of the municipalization of street-car lines in the United States wish a good object lesson on their side of the question they can not do better than to study the Hull tramway system.

WALTER C. HAMM, *Consul.*

HULL, ENGLAND, *January 26, 1904.*

DEPRESSED LABOR CONDITIONS AND MUNICIPAL OWNERSHIP IN GREAT BRITAIN.

(From Monthly Consular Reports for November, 1904.)

Statistics regarding current trade in Liverpool, as in England and the United Kingdom generally, are very puzzling. The returns of the Liverpool dock board for the year ended June 30, 1904, indicate prosperity at this port; yet the fact is that not for many years have so many men, particularly porters and dock laborers, been out of work as there are now. So, too, the British Board of Trade figures show a swelling export as well as import trade, and some political economists argue therefrom that trade was never better. It is common knowledge, however, that throughout the country at large there are more men out of work and wages are lower than for probably any period within the last seven or eight years.

TRADE CONDITIONS.

Certainly trade generally is not in as good condition as it was last year, or for several years previously. Municipal and national statistics show an ever-increasing number of men out of employment; the wages for skilled men show a continual lowering during the last twelve months; the savings in the banks by working people have decreased; the popular resorts where the British workmen are accustomed to go by the hundreds of thousands during the summer for a holiday show a marked diminution of visitors; and the shopkeepers, not only in London, but in the other large cities of the country, as well as in the small towns and villages, are complaining of the slackness of business. The outlook for the coming winter is so bad that the local government board (national) issued a circular October 6 to the metropolitan board of guardians, calling a conference to consider steps to alleviate the feared abnormal distress. In other words, all the indications, with the exception of the figures of exports and imports shown in the British blue book, are that the past year has been anything but a prosperous one for the British people; and, owing principally to the crisis in the cotton trade, nowhere has the pinch been felt more than in Liverpool and in Lancashire generally. Yet it is rather difficult to explain why British trade should be so bad, in view of the fact that exports and imports have so far increased in 1904 over 1903.

INTERNAL IMPROVEMENTS.

The most plausible reason given is that there has been during the last year a tremendous falling off of internal improvements, and in home demand; and indeed this has been the tendency for several years past. There is a marked stagnation in England just now in private enterprises, whether by individuals or companies.

MUNICIPAL OWNERSHIP OF PUBLIC UTILITIES.

So, also, there is an unmistakable cessation of the tendency toward the "municipalization" of industries, which seemed to have fairly captivated the English people a few years ago, and which threatened to become almost epidemic, embracing not only "public utilities," but a large variety of what had generally been considered to belong to the category of individual enterprises exclusively. Very little is heard just now of new movements in this direction; and indeed there are influences at work—well organized, though quiet—which have for their object the wiping out, or at any rate the curtailment of "municipal socialism." This movement is taking advantage of the fact of the growing opposition to increased municipal taxes, the claim being made that the "municipalization" of industrial enterprises not only kills individual effort, but adds to the municipal rates. Of course, there is another side to this question. Still, it is significant that local authorities who are committed to the "municipalization" system are now devoting their chief energies to economy of management, and to bringing out a good financial showing at the end of the year, so that the profits can go to the general fund, and thus ward off any increase in the taxes.

The latest returns show that in 1902 the local indebtedness in the United Kingdom was $1,717,082,910—an increase of $1,252,982,410 in twenty-eight years. The new spirit of economy is being manifested to soften criticisms against the system. British municipalities are now spending far less money than they were spending a few years ago in making improvements, and this fact has had a tremendous influence upon internal trade. It has perceptibly decreased the home demand in many lines of work. The "slump" in shipbuilding has also materially affected internal trade.

EXPORT TRADE.

The result has been that British manufacturers have been able to give more attention to the export trade. As the labor market is cheaper than for several years past, and labor-saving machinery is now being largely used, the manufacturers are now better able to compete with other countries in neutral markets than they have ever been since American and Continental competition first began to be seriously felt.

POLICY OF LABOR UNIONS.

Employers of labor have been complaining for years that one of the reasons why this country has not been able to hold its own against its rivals is because the British workman seems to make it his policy not to do more than a certain daily "stint," and trades unions have been charged with making it part of their policy to limit output, although it is fair to say that the unions have generally denied the truth of this

allegation. Still the fact unquestionably remains that the British workman is opposed to "hustling," as the word is understood in the United States. Within the last few years attempts have several times been made on a large scale to induce workmen to make a greater output. One of these schemes is the "premium bonus" system, said to be an "American importation." The Amalgamated Society of Engineers some time ago agreed to a trial of this system on a modified scale, and as a result demands were made by employers to extend it to other trades, including those affiliated with shipbuilding.

The matter was taken up by the Engineering and Trades Federation, which is composed of 24 different trades unions. The committee of the federation made an inquiry, extending over several months, and it has recently made a report emphatically condemning the system as being an "adaptation of the most pernicious and degrading condition of employment in modern industrial history—the task-work system." There is little doubt that this decision will be accepted by the engineers, and it is probable that it will become the declared policy of British trade unionism generally. The attitude of British workmen, and particularly of British trades unions, toward piecework has been generally that of hostility, although, of course, in certain lines of work payment by the piece or job prevails as being the only fair and practical method.

JAMES BOYLE, *Consul.*

LIVERPOOL, ENGLAND, *October 7, 1904.*

MUNICIPALIZATION IN LEICESTER, ENGLAND.

(From Monthly Consular Reports for December, 1904.)

An important public improvement this year in Leicester is the installation of an electric street-car system in place of the horse-drawn cars. The old system extended 9 miles; the new lines, when completed, will cover 42 miles. The greater part is now equipped with overhead trolleys and is open to the public. It is a municipal undertaking. The largest tramway junction in the United Kingdom is at the clock tower, whence five sets of double track radiate. The fare from this point to any other on the line is 1 penny (2 cents), which pays for a journey, in some cases, of nearly 3 miles. The total cost of the system will be about $3,250,000. For the first half of 1904 the net profits of the municipal gas works were $110,000; of the electric-light works, $12,500, and of the waterworks, $44,000. All this surplus goes to reduce taxes or to benefit the public in other ways.

FRANK W. MAHIN, *Consul.*

NOTTINGHAM, ENGLAND, *October 31, 1904.*

PUBLIC UTILITIES IN HULL.

(From Monthly Consular Reports for December, 1904.)

The construction of a municipal telephone system in Hull has brought about a speedy reduction in rates. At a recent meeting of the corporation telephone committee it was announced that the charge for unlimited service over an exclusive line would be £5 ($24.33) per annum to private houses and £6 6s. ($30.65) to business premises. This reduction has been followed by a large increase in the number of subscribers. The National Telephone Company has been compelled to reduce its rates for unlimited service to private houses from £10 ($48.66) to half that amount. To what extent this reduction will affect the company in other towns and cities is a matter of interest. It is stated that in the agreements which the National Telephone Company has with practically all the large towns and cities in England, and by which the corporations of those towns granted the company underground way leaves, it was made a condition that in case it reduced its unlimited service rate in any place below $48.66, a similar reduction must be made, if demanded, in all other towns. If this is the case, then other cities can now demand the same telephone rate that is made in Hull. Thus the competition in this city may prove beneficial to every city in England.

A recent report of the comptroller of accounts of the Hull corporation throws some light on the position of other corporation enterprises and the success attending their municipalization. On account of the crematory, $530.44 was expended for maintenance and $306.58 was received in the year ended April 1, so that there was an excess of expenditure of $223.86 in this case. On the public baths during the same time there was an excess of expenditure of $1,110.53. In the gas department the profit in the year was $15,380, from which there is to be deducted interest on the debit balance and a sum for the sinking fund, leaving a net credit balance on the revenue account of $2,637. The working profit of the waterworks was $149,893. Deducting $12,652, city fund annuity; $57,449, interest on loans, and $8,622 for the sinking fund, leaves the net profits $71,162. The revenue account of the electric lighting shows a working profit of $88,696, from which there are to be deductions for interest on loans, sinking fund, and meter installments, leaving the net profit $7,976. The working profit on account of the street cars for the year was $185,238, from which $48,329 is to be deducted for interest on loans and $45,700 for the sinking fund, and $37,400 to be transferred to the reserve fund, making the credit balance for this year $57,500.

In each instance, then, with the exception of the crematory and the baths, the municipalization of public utilities in Hull has resulted in profit to the city treasury. The profit, it is true, is small, but it must

be remembered that the charges for these public services are extremely low. A ride on the street cars in any direction to the end of the line costs only 2 cents; an exclusive telephone service in a private house costs less than $25 a year, and in a business office about $30 a year. Gas is sold at 48 cents per thousand feet and electricity at 9 cents per unit. The object is not so much to make a profit for the city out of these utilities as to furnish the public with the best service at the lowest possible price. Viewed in this light, municipalization in Hull can be pronounced a success.

WALTER C. HAMM, *Consul.*

HULL, ENGLAND, *October 31, 1904.*

MUNICIPAL OWNERSHIP IN SHEFFIELD.

(*From Monthly Consular Reports for March, 1905.*)

WATER SERVICE.

The water service in Sheffield has occasioned some anxiety on account of the exceptional drought, there having been a steady diminution of the supply from the beginning of 1904 until the first week in November. The average daily consumption of water at this time of the year (winter) is 11,000,000 gallons; in the summer it reaches 13,000,000 gallons. In 1894 the daily average consumption was 7,500,000 gallons. The city has been compelled to take steps to meet this increased demand, and seven years ago the construction of the Langsett reservoir was begun. The past year noted the closing of the valves of this work, and within a year it will be sending water to the city. The new reservoir, which has a capacity of 1,400,000,000 gallons, was constructed jointly by the corporations of Sheffield, Rotherham, and Doncaster at an estimated cost of $4,866,500, to be borne by them in proportion to the quantity of water taken.

The water charges in Sheffield are stated to be among the lowest in the United Kingdom, and it is also authoritatively stated that "for domestic use, as well as for trade, manufacturing, and boiler purposes, Sheffield water is unrivaled." At the end of 1904, after all working expenses were paid and the necessary installments for the reduction of loan indebtedness provided, and after the water-rate charges had been reduced by 25 per cent, amounting to $131,396, there was an accumulated surplus of £120,825 ($587,995) in the revenues. During 1905 interest and sinking-fund charges on the Langsett works will become due and will have to be paid from the surplus.

The year 1887 was the last of the water company, and a comparison between private and municipal ownership is presented. In 1887 the gross revenue of the water concern was £83,310 ($405,428); in 1904 it was £169,046 ($822,662), an increase of 103 per cent. The working

expenses in 1887 were £14,224 ($69,221); in 1904 they were £27,408 ($133,381), an increase of 92 per cent. The gross profit in 1887 was £69,036 ($335,863); in 1904 it was £114,548 ($557,447). The net profit after deducting charges for interest and new works in 1887 was only £5,971 ($29,058); in 1904 it was £74,228 ($361,231), an increase of more than 1,200 per cent. The old shareholders of the company have been paid in progressive dividends £119,401 ($581,065) more than they were receiving in 1887. The city received as it share of the improvements £352,509 ($1,715,485), consisting of reduced water charges, £106,619 ($518,861); amount paid toward the purchase of the freehold, £122,065 ($594,029), and a surplus of £120,825 ($587,995) on hand for emergencies.

Early in the year the municipality began giving water free to the health committee for baths and other purposes, by which that department is now saving about £2,700 ($13,140) a year.

ELECTRIC LIGHTS.

The year 1904 was notable for the opening of the power station at Neepsend. There has been a notable increase in the demand for electricity. A few years ago only a very small number of motors were in use; now they may be found driving all kinds of machinery. Electric motors to the extent of 115 horsepower were applied for in the year; several cutlery firms now have their machinery driven wholly by electricity, and it is applied in rolling mills and to pneumatic and power hammers, annealing furnaces, lathes, saws, and machines for buffing, wire drawing, steel-tape grinding, and tempering. There are also twenty elevators for passengers and goods, and a large number of traveling cranes operated by electricity. Customers have increased in number from 2,549 to 3,000. The lamp connections have reached a total of 275,363. The units sold up to last March were 3,980,049, and it is estimated that 5,000,000 will be reached by the end of the current year.

After paying all charges the department had a surplus at the end of the financial year of £5,431 ($26,429) against £6,534 ($31,797) at the end of the previous year, the decrease being accounted for by the fact that interest is being paid on a large amount of capital that has not yet become revenue producing. A new style arc lamp has been introduced for lighting shop fronts, the brilliancy of which is unquestioned, although it has not yet come into general use, only about twenty having been installed so far. For interior lighting the Nernst lamp is a growing favorite and is regarded as a formidable rival to the incandescent gas lamp.

ELECTRIC TRAMWAYS.

The receipts of the Sheffield tramways in 1904 amounted to £235,939 ($1,148,197), an increase of over £7,000 ($34,065) over 1903; 62,579,866

passengers were carried and 5,658,926 car miles were run during the year. The total number of cars is 247, an increase of 29 in the year. The average number of ordinary cars running daily is 139 and 58 special cars. There are over 64 miles of single track (excluding depots), and the total number of employees is 1,386. Among other changes and experiments that have been made during the past year are the installation of an automatic point or switch controller in June last, which is still in operation and is working satisfactorily. About 230 vehicles have been equipped with the "hanging-gate" type of life guard, and the remaining cars will be fitted in the same way. Outside end indicators with the route in full have been ordered and are being fitted on all cars.

During the year the rate of pay for conductors has been increased, and they have been granted relief for meals. In March a clause was adopted attempting to limit the liability of the corporation to £25 ($121.66) in the event of injury to a passenger, but in November this clause was withdrawn as being untenable.

MOTOR OMNIBUSES.

The question of running motor omnibuses from some of the present outside termini to outlying districts has been considered, but as the corporation has not the power to run such vehicles under the existing acts, it has been decided to apply for the necessary authority in the next Parliamentary bill.

CHAS. N. DANIELS, *Consul.*

SHEFFIELD, ENGLAND, *January 24, 1905.*

TWO-CENT CAR FARES IN ENGLAND.

(From Monthly Consular Reports for April, 1905.)

In consular reports from England, and in newspaper and magazine articles written by the many Americans who tour this country for the purpose of investigating municipal systems, there are frequent references to 2-cent street-car fares in England, but I have not seen in any of the writings a clear statement of what is meant by a 2-cent street-car fare.

The average distance one can travel in Birmingham for 2 cents is 1 mile 2 furlongs and 158 yards. The minimum "penny stage" (2-cent distance) is 6 furlongs and 189 yards and the longest penny stage 2 miles and 178 yards. When the leases of the present street-car lines (cable and steam trams and a couple of electric lines) have expired, and Birmingham is in a position to build and conduct an electrical street railway system—and it will be fully 1907 before there can be

anything like a complete system—the penny or 2-cent stages will not extend over 2 miles.

It has always seemed to me that street-car travelers who can afford to take short rides are the ones who can afford to pay full fares. The penny (2 cent) system of charges for a given distance, and between arbitrary points, offers transit facilities of a less accommodating, because less flexible character to the average street-car user, as compared with a single fare of 5 cents for any distance. It favors those residing near one of the termini or "penny stages" and any of the public who happen to be near a "penny stage" when wishing to use a street car, and particularly when the needs are to go to a point near a terminus or "penny stage." The system also practically excludes the adoption of the transfer system, a facility so much appreciated by street-car users in the United States. If a person's business place is 25 yards from a "penny stage" and his home 20 yards beyond the next "penny stage," and he wishes to ride all the way home, and the "penny stage" is 2 miles, which will be the maximum stage of the new systems in Birmingham, the street-car fare would be 6 cents for 2 miles and 45 yards.

MARSHAL HALSTEAD, *Consul.*

BIRMINGHAM, ENGLAND, March 8, 1905.

LEEDS STREET-CAR SYSTEM.

(From United States Consul Hamm, Hull, England.)

The financial year of the Leeds corporation, which closed a few days ago, shows that the receipts of the street-car department for the last twelve months have been $1,475,000, about $85,000 more than in the previous year. Such a substantial increase in the income appears to prove that the policy of extending the street-car system to every part of the city was a wise one. The mileage is practically the same now as it was two years ago, but the past year's increase in receipts is nearly $10,000 more than that in the year 1903, when the increase reached $76,105. The past year's figures are interesting as showing not only that there will be a very substantial profit—in spite of the depression of trade that has been generally felt in the city—but also that the cheapening of fares in many directions has been accomplished without financial loss.

Of a total number of 64,223,666 passengers carried, 4,781,417 paid 1 cent fare; 50,778,052 paid 2 cents; 1,424,136 paid 3 cents; 6,150,880 paid 4 cents, and 1,089,181 paid 6 cents. During the preceding twelve months the total was 60,739,234 passengers, or 3,484,432 less.

The average receipts per mile amount to just over 20 cents—a fraction less than in the preceding year—but with an increase in the gross

takings of about $85,000. It is hoped that when the other side of the account, namely, the expenditure, is made out, the balance of profit will be nearly, if not quite, as great as it was a year ago, when, it will be remembered, the handsome sum of $260,000 was handed over to the city treasurer in relief of the taxes, after all necessary allowances for maintenance, depreciation, interest, and sinking-fund charges had been made. The work of the system for the past three years is shown in the following table:

Statistics of Leeds street railway management, 1903 to 1905.

Item.	1902-3.	1903-4.	1904-5.
Receipts	$1,312,165	$1,388,265	$1,475,000
Mileage	5,778,651	6,091,437	7,000,000
Passengers carried	57,239,779	60,739,234	64,223,666
Receipts per mile ....cents..	21¼	21¼	20

Leeds is a city of about 450,000 population. It is surrounded by a number of suburban places, in many of which there are street-car systems owned by private companies. These companies have an arrangement with the Leeds corporation by which they run their cars over the corporation's tracks to the center of the city. In this way the suburban systems act as feeders to the city system, and the convenience of out-of-town passengers is greatly increased.

Leeds continues to claim that it has one of the best managed and most profitable street-car systems owned and operated by the corporation of any city in England.

WALTER C. HAMM, *Consul.*

HULL, ENGLAND, *March 31, 1905.*

SERICULTURE IN ITALY, CHINA, AND JAPAN.

INTRODUCTION.

On January 6, 1904, a circular letter was addressed to the consular officers of the United States in Italy, China, and Japan, instructing them to make the necessary investigations into sericulture as conducted in those countries and report the results of such investigations to the Department for publication in Consular Reports. The scope of such investigations will be seen by the following interrogatories submitted by the Silk Association of America and embodied in the circular:

PART 1.—RAISING THE COCOONS.

Assuming a commercial value of 25 cents per pound of cocoons ready for the reeler or filature, what is the relative share or proportion of this value distributed, say, (1) to the landowner for his trees (mulberry orchards); (2) to general expenses for seed, paper, fire, and sundries; (3) to the laborer for his labor?

Number of operatives.—State how many persons, approximately, are employed in Italy, China, or Japan, or in your consular district, in raising the cocoons, viz: Manipulation of production of the silk moth; microscopic inspection of the moth; assorting the seed and taking care of it; hatching the eggs; gathering the mulberry leaves; feeding the silkworms.

Labor's share.—Assuming 11 to 12 pounds of fresh cocoons as necessary for 1 pound of reeled silk, what will be the compensation of women and children in raising the cocoons (but not including silk reeling)?

Hours of labor employed daily (state average); number of days employed in a year (state average); number of cocoon crops in Italy; usual number of days for each crop.

Each operative's work—results.—State average number of silkworms each operative in Italy, China, or Japan, or in your consular district, will attend to the feeding of. State average quantity of cocoons, in weight, produced by this number of silkworms. State average quantity of raw silk, in weight, when reeled from this quantity of cocoons.

Intellectual condition of the operatives.—As a class, are they intelligent, tractable, and reliable? Or are they as a class restless, shiftless, or unreliable? Are the operatives a prey to socialist or other disturbing agitators?

Other occupations of silk growers.—When the crop of cocoons has been turned in, do the women and children engaged in sericulture have any other occupation?

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If so, what occupation, as a rule, and what wages do such other occupations pay, say, by the day, week, or month?

N. B.—The object is to learn the average earning capacity or annual earnings received by persons employed in sericulture (1) in feeding worms and raising cocoons; (2) in other employments, if any; (3) in silk reeling.

Government aid.—Do Government officials aid through their intervention in any way in establishing regular markets for the purchase and sale of cocoons?

Does the Government give aid in any other form?

Diseases of the silkworm.—What special precautions are taken by experienced sericulturists in your consular district to avoid the diseases of worms and seed incident to sericulture there?

Education and training of breeders of silkworms.—Is special attention given to the instruction and control of breeders of silkworms?

What is the nature of this instruction?

Tree growing.—Are the mulberry trees (from the leaves of which the silkworms are fed) allowed to grow at random, or do they receive special care and scientific treatment?

Any observation on this head to show that even the tree growing is specially cared for in Italy, China, or Japan, as an integral part of successful sericulture, will be welcome.

Part 2.—Silk Reeling.

Sorting the cocoons to match in color and quality is an indispensable precaution in successful silk reeling. Mention, therefore, certain grades or chops as standard qualities reeled in your consular district, and base thereon your answers to the following questions:

What is the average quantity (weight) of silk reeled daily by each operative? Although the most expert reelers will undoubtedly reel more, the approximate daily average is desired.

What is the average daily earning capacity of operatives, say, in the first year of their employment as reelers?

What is the average daily earning capacity of the most expert reelers?

What is the usual price paid per pound for reeling?

Are men and children, as well as women, usually employed in silk-reeling establishments?

Hours of labor.—Are the hours of a working day fixed by law or by custom?

How many hours a day do the operatives usually work in the silk filatures in your consular district?

Number of days employed in a year (state average).

Do operatives employed in the filatures usually have any occupation other than sericulture?

The object of this inquiry is to learn the average earning capacity or annual earnings received by operatives engaged in this branch of the business.

Compensation of overseers.—What is the monthly or annual compensation paid to overseers or superintendents of filatures?

Skilled instruction.—Is special care given to the education of operatives in their duties?

Is special attention given to the introduction of new improvements in the construction of silk filatures and their internal arrangements,

viz, as to organized ventilation, escape of steam by artificial processes, steam generating, and machinery?

Fuel.—Is much artificial heat necessary in the filatures?

What is the price or cost of fuel?

General observations.—Any observations in general that emphasize the important fact that silk growing and silk reeling is not a haphazard, happy-go-lucky venture, but a serious business, conducted in the main, and more and more, on highly scientific lines of effort and procedure, will be a welcome contribution to the enlightenment of persons interested in the answers to these inquiries.

The following reports are replies to these interrogatories.

ITALY.

LOMBARDY.

(From United States Vice-Consul Smith, Milan, Italy.)

The information contained in the following report has been very kindly supplied by Mr. Joseph Corti, director of the Staggionatura e l' Essaggio delle Sete, of Milan, who is regarded as one of the highest authorities on sericulture in Italy.

RAISING THE COCOONS.

Number of persons employed.—Assuming, for the purpose of computation, that the same people are not generally engaged in the different operations, and that the majority of them are peasants and not laborers, the number of persons employed in raising silk cocoons in Italy can be estimated as follows: About 10,000, the greater part women, employed for twenty days in June and July in the care of the eggs; about 4,000, the greater part women, employed during one hundred and twenty days in July, August, and September on microscopic examinations of the moths; about 3,000, the greater part women, employed for about sixty days in November and December in assorting, warehousing, weighing, and preserving the seed; about 15,000, the greater part men, employed for twenty days in April and May for the hatching of the eggs (seed); about 250,000, the greater part men, engaged for twenty-five days in May and June in gathering mulberry leaves; about 1,000,000, the greater part women, employed for thirty days in May and June in feeding the worms.

Wages and hours of labor.—It is not possible to give the compensation of women and children in raising the cocoons, inasmuch as outside hands are not engaged for the raising of cocoons, the work being done by the members of the peasant's family, who employ one or two days in collecting the cocoons raised by themselves, working from early morning until evening, which is to say, about fourteen hours a day in the month of June.

Cocoon crop.—The Italian harvest, according to official statistics, is,

on an average, about 40,000,000 kilograms (88,184,000 pounds), but this does not take account of the quantity of cocoons which are used for the production of silk consumed in the country itself. In all probability the total quantity of cocoons raised annually in Italy is about 55,000,000 kilograms (121,253,000 pounds). This quantity is usually collected between June 10 and the beginning of July, although in some regions the work begins a little before June 10, and in other, especially in mountainous regions, the season terminates about the middle of July.

For several years the attempt has been made in different regions to produce a second crop during the year, cultivating the seed twice. This is possible, but the attempts were not profitable, as the trees suffer when their leaves are stripped twice and, as a consequence, yield much less the following year.

A family's work and its results.—As already stated, the raising of the silkworm is undertaken by the peasant's family. It is not the special work of one person. A family comprising father, mother, and four children, males or females, two of whom are over 9 years of age, cultivate, on an average, 30 to 40 grams (1 to 1¼ ounces) of seed. The father with the male children gather the leaves from the trees. During the first fifteen days of cultivation the father gives, progressively, one to four hours of his daily time to this work, and four to twelve hours, always progressively, for the next fifteen days. The wife is occupied feeding the worms and chopping the leaves, according to the age of the worms. During the first fifteen days this work requires from two to eight hours of the twenty-four, feeding having to be done at regular intervals day and night. During the following fifteen days the woman works from eight to eighteen hours during the twenty-four. The last eight days of the raising period (which is comprised in the thirty days) require the whole attention of the man and wife, with the help of the two eldest children. When the worms have sought the twigs, specially prepared and ready for them, to spin the cocoon, there are eight to ten days of repose. Then follow another day and a half's work devoted to collecting the cocoons.

The production of raw silk is governed by the race cultivated, the care exercised, and the propitiousness of the season. As an average, one can calculate on a production of 45 to 50 kilograms (99.3 to 110.23 pounds) of cocoons for 30 grams (about 1 ounce) of seed. According to the quality of the race cultivated and the results obtained, the 30 grams of seed or the 45 to 50 kilograms of cocoons will possibly produce 4 to 5 kilograms of reeled silk. A kilogram (2.2046 pounds) of reeled silk therefore calls for from 10 to 12 kilograms (22.046 to 26.46 pounds) of cocoons, according to the race and the result of the cultivation.

Intelligence and character of the workers.—The peasant class of northern Italy can be considered intelligent, though but slightly educated.

During the last few years, however, instruction has extended largely even among the peasantry. As a class, they are very industrious, tractable, and generally most honest, although they live poorly and frugally. They are quiet and usually religious, and are, for the most part, guided by the clergy. The peasants of northern Italy are not a prey to disturbing agitations. Being quiet and tractable, they ask only to be able to earn a livelihood through their assiduous labor.

Other occupations of silkworm raisers.—As already stated, the raising of silkworms requires about forty days. During the other parts of the year the women and girls are mostly occupied in the silk-reeling industry, or in the cotton and wool industries, which in northern Italy are important, and give employment to a great number of work people both male and female. The men commonly continue the work in the fields, tilling the ground and cultivating wheat, maize, vines, hay, etc.

The women employed in the above-mentioned industries are paid about 1 to 1.50 lira (19.3 to 28.95 cents) for ten to twelve hours' work per day; the girls earn from 50 to 75 centimes (9.65 to 12.47 cents) per day of the same working hours.

From what has been stated, it is evident that the culture of the silkworm does not represent a larger income to the peasant than he could earn in other occupations, but it must be observed that the peasant is constrained to engage in silk raising for various reasons. The owner of the land which the peasant cultivates for grain, maize, vines, hay, etc., is also the owner of the house where the man and his family live, and it is natural that he insists that his tenants utilize the leaves of his mulberry trees by cultivating the silkworm, and bring him return on them. Moreover, in that period of the year it is usual that the work in industrial establishments, especially in reeling and twisting establishments, ceases for the annual repairs of machines and for the necessary preparation for the annual purchase of cocoons. Working women, therefore, in such periods would not earn a living if they were not occupied in silkworm cultivation.

Government aid.—So far Government aid has been limited to the founding of some special schools of sericulture and some observatories engaged in the study of the seed. The means which said schools have at their disposal are so limited, however, that the results would be inefficient if the deficiency were not made up by the extra good will of the instructors.

Securing of healthy seed.—The precautions used by sericulturists in recent years to produce good and healthy worms and cocoons in good quantity are principally the special cultivation and isolation of small quantities of worms well placed as to atmosphere and provided with nutrition of the best quality. From the product of such special cultivation cocoons are taken adapted to produce the seed which will serve

for the normal cultivation of the following season. The worms in the chrysalis and the seed obtained are examined under the microscope to ascertain their immunity from the disease known as pebrine. The unhealthy seed is discarded, the healthy seed preserved in refrigerant rooms from July until the following April at a constant temperature independent of external variations, so that even though spring weather should come before the normal period the eggs of the worms remain unhatched until the proper time for cultivation, which is determined by the growth of the mulberry leaves.

When this period has arrived the eggs are taken from the refrigerant rooms and are placed in the stove; that is, in a room where the temperature is augmented by half a degree each day until it is brought to that degree which hatches the eggs. This room is especially guarded night and day by practical and experienced persons, whose care it is to never permit the temperature to be lowered from the points progressively reached. The consequence of such lowering would mean the death or at least the weakening of the future worms. As the worms are hatched they are distributed to the peasants, who then begin the cultivation.

Training of silkworm raisers.—The skill of the peasantry who cultivate the silkworm is obtained rather by practice and tradition than by instruction. As children they commence helping their parents in the cultivation, and in course of time learn by practice. There are, however, special publications adapted to the peasants' slight education, which serve to instill in them the most reasonable precepts necessary to make good cultivators. It is strongly urged that they have regard to cleanliness of the cultivating rooms and of the utensils used in cultivation, that they exercise the greatest diligence and vigilance in keeping the room airy without allowing it to get cold, and that the leaves given be dry and be not fed immediately after being taken from the trees.

The landowner, who is financially interested in the success of the cultivation, sends each day to ascertain if it is proceeding regularly, and to give any necessary instructions. The rural school-teachers impart to their small scholars information obtained from the most recent experiments, so that the new generations, little by little, become accustomed to the improvements which science reveals as necessary to obtain the best and greatest results.

Mulberry tree growing.—The culture of the mulberry tree requires as much care as that of the silkworm itself. The tree is not allowed to grow wild. There are special nurseries kept either by horticulturists or by the owner of the land. When the plant has grown to the size of a small shrub it is taken from the nursery and transplanted. The trees are generally planted in rows of a little more than 5 yards

apart, and one row is distant from another at least 10 or 12 yards. Before planting the shrub a hole is dug 2 yards square and about 1 yard deep. Stable manure, previously prepared, is then placed in the hole, and in the middle of the square the shrub is planted. The hole is then filled in with earth from which all stones have been picked, so that the roots do not meet with any obstacle in their growth.

During the first year the shrub is allowed to grow three branches. In the winter these are cut back, and in the following spring each branch of a year's growth which was cut will put forth new branches, which again in the succeeding winter are likewise cut, leaving three stems on every branch of two years' growth. The tree is pruned yearly on the same method. The fourth year after being transplanted the trees can be stripped of leaves for feeding the worms. The trimming of the trees, according to the method above described, calls for practical experience, as it is an important factor in the welfare of the tree.

The ground surrounding the mulberry tree for a radius of 3 yards should be kept free from grass or other vegetable growth and roots which would draw from the nourishment of the tree.

SILK REELING.

Preferred variety.—Throughout Lombardy the most prized cocoons of late years are those produced from crossing the pure Italian yellow with the white of Shanghai. The product of this cross preserves the spherical shape and the fineness of the thread of the white Shanghai cocoon, while it takes the yellow color and a greater elasticity and strength than can be derived from the pure yellow alone. Preference has been given to this particular cross over the pure yellow, as the metamorphosis of the worm is of shorter duration, the worm requires a less quantity of nutriment, and gives a larger return of silk, inasmuch as the weight of the chrysalis, in proportion to the silk of the cocoon, is less than that of the pure yellow.

Suffocation of chrysalids.—Before the cocoons are disposed of for reeling, the chrysalids are destroyed in the ovens to prevent their emerging as moths and so destroying the envelope of the cocoon. After the suffocating process, the cocoons are dried either naturally or artificially, after which they can be preserved indefinitely. When the pupa is quite dry inside the cocoon the cocoons are put up in bales, and can remain so for several years with but little loss of quality. The cocoons so suffocated and dried can then be distributed daily to the reelers, who receive a given weight of cocoons at the commencement of the day's work.

Daily product and wages of operatives.—On the following day an inspector of the filature weighs the silk produced by each reeler in

order to establish the quantity of cocoons consumed by each woman, and the quantity of silk obtained. The woman who has produced the greatest quantity of silk, employing at the same time relatively the least quantity of cocoons, is classified among the best workers if she has reeled the silk evenly and regularly and has had due regard to cleanliness.

The quantity of silk which each reeler produces in a day varies very much, according to system of reeling adopted, the quality of the cocoons, and the kind of silk to be produced. In Lombardy it can be estimated that the work of each woman represents about 400 to 500 grams (14.1 to 17.6 ounces) of silk per working day. Beginners can produce from 300 to 400 grams (10.6 to 14.1 ounces), and experienced operatives from 450 to 500 grams (15.9 to 17.6 ounces) on an average per day.

These women earn from 1 to 1.10 lira (19.3 to 21.2 cents) per day of eleven to twelve working hours. It is not usual to pay according to quantity of silk produced, as it is thought that such mode of payment would influence the operative to strive for quantity to the neglect of quality. She would not pay proper attention to the evenness, cleanliness, and uniformity of the thread, nor would she have regard to the quantity of cocoons consumed, which is important, and must receive the greatest care.

Men and boys are not employed in silk filatures, as the work is not suited to them, calling for a delicacy of touch which they have not. In China, India, and the Caucasus men are employed on this work, but women only are employed in the filatures of Shanghai.

Hours of labor.—As previously mentioned, the working day varies in Lombardy from eleven to twelve hours. The law does not permit more than twelve hours per day for women. On an average, the working days of the silk reelers in a year are from 250 to 280, Sundays and other festivals being excluded. Work is generally suspended from December 24 until January 15. Another period of suspension is from the middle of May until the end of June. In these periods machines, steam generators, and other accessories of the silk industry are overhauled. In May and June the women are engaged at their homes with the culture of the silkworm, as described in part 1 of this report.

Yearly compensation.—Generally speaking, these women have no other occupation, and it can therefore be estimated that they earn from 250 to 300 lire ($48.25 to $57.90) a year. In a filature of 100 basins, the manager earns from 3,000 to 4,000 lire ($579 to $772) a year, plus houseroom for his family. The bookkeeper earns 1,000 to 1,500 lire ($193 to $279.50) a year. Three or four overseers (women) are paid from 2 to 3 lire each (38.6 to 57.9 cents) per working day.

Skilled instruction.—The reelers enter the filatures at the age of 12 years. During the first two or three years the girls are employed only

on the waste silk, which must be separated, classified, and prepared according to the manner in which it is divided. After this first period the girls are promoted to the position of attending to the "batteuse" (a machine for brushing and cleaning the cocoons), which supplies the cocoons, ready for throwing, to the reelers. While thus engaged, a girl, as a reward for any marked activity and intelligence, is allowed to work for some few minutes a day at the side of the thrower, in order to learn how to throw the thread.

Slowly and by degrees, as she obtains practice in throwing, she is allowed more time at the basins, until the day arrives when she is permitted to occupy her whole time with such work and becomes employed as a regular reeler. When the girls are about 18 years old they have usually gained sufficient knowledge and are sufficiently experienced to be regularly employed as reelers. Six years passed in the manner described is not considered too long a period to attain efficiency.

Progress in silk spinning.—The silk-spinning industry is never at a standstill, so far as concerns the mechanical parts, the arrangements of the working rooms, the construction of steam generators, the means of eliminating humidity from the filature and magazines, illumination, and other practical matters. On the other hand, in the treatment of the cocoons, the formation of the thread—in short, in the spinning and treatment of the silk itself—no noteworthy change has been wrought, in spite of incessant study which has been and is being given to the subject. The unwinding of the single thread from the cocoon demands such a delicacy of treatment that so far only the manual dexterity and intelligence of the women reelers has been able to cope with it. All mechanical processes proposed in substitution of hand labor have failed.

Fuel used in filatures.—Generally speaking, reeling of the cocoons is done in steam-heated water. A reeler's basin, or tray, has a capacity of about 16 liters (17 quarts) of water, which is maintained at a temperature of 60° to 70° C. (140° to 159° F.), according to the quality of the cocoon to be reeled. The basin of the "batteuse," in which the cocoons are beaten, supplies two basins operated by the reelers, and has a capacity of about 15 liters (16 quarts) of water, which is maintained at a temperature of 100° C. (212° F.).

The cost of firing is calculated at from 45 to 65 lire ($8.70 to $11.60) per day for a filature of 100 reelers. For the steam generators Cardiff coal is used, which costs in Lombardy about 40 lire ($7.72) per ton of 2,240 pounds.

H. P. SMITH, *Vice-Consul.*

MILAN, ITALY, *July 27, 1904.*

PIEDMONT.

(*From United States Consul Cuneo, Turin, Italy.*)

The silk industry in Piedmont.—Piedmont is the greatest cocoon producing region in Italy. Owing to late frosts and lingering cold weather, last year's crop was a disastrous failure, but in 1902 about 13,000,000 pounds of cocoons were produced in Piedmont. The population of the State is about 3,500,000, and a large percentage of the peasants are engaged in the silkworm industry in the proper season. While Piedmont is the greatest producer of cocoons, Milan is the commercial center of the Italian silk industry.

Mulberry culture.—The peasant sericulturist plants his mulberry trees on the edges of his field, so as to avoid shading his ground, which is devoted to the production of grain, fruits, etc. The white mulberry tree, the one used in Piedmont, is of slow growth, becoming useful in fifteen years, but not reaching its full size until it is 25 and 30 years old. It lives to a great age. The trees are planted and raised with the same care that the farmer gives to his apple, peach, cherry, and other fruit trees. In some parts of Italy there are regular mulberry nurseries.

Hatching the eggs.—The peasant who raises silkworms aims to have the eggs hatch about the last of April, but he carefully watches the weather conditions and the mulberry trees, for it would not do to have the worms need food when the trees were not yet in leaf. When the weather conditions are favorable, about the 1st of May, and the mulberry buds have made sufficient progress, the sericulturist, or, more properly, his wife, will set the eggs, so that by the time they are hatched the mulberry buds will have developed into little tender leaves, which are gathered, and the women who tend the worms cut the leaves with scissors or other instruments and place the fragments on the little creatures, when they begin their first eating.

The methods of hatching eggs are many. I have known women to place the eggs in light cloths and put them in their bosoms; others put the eggs under bed pillows, but the usual way here is to place them in cloths and leave them where cows and other domestic animals are kept, the animal heat being effectual in making the eggs hatch. When many are raised artificial heat is resorted to. I am told, however, that artificial means for hatching eggs are not popular here. The eggs are about the size of small pin heads.

Growth and care of the worms.—When the eggs are hatched the women place them in cases on little tables covered with clean paper, and then give them the tender mulberry leaves. The men pull the leaves and carry them home, while the women care for and feed the worms.

The silkworm, when it first makes its appearance, is small and helpless, incapable of eating hard food, hence it is timed to come when the mulberry leaf is in its tenderest condition. As the worms become more vigorous and their capacity for eating and digesting grows stronger, the mulberry leaves grow in solidity and nourishing power.

When the worms first make their appearance they occupy but little room, but as they grow larger they require more. The length attained by them varies, some growing to fully 3 inches, while others are considerably shorter. It is very interesting to study silkworms during their eating periods. They are great eaters. They begin on the outer edge of the leaf, cut and eat uniformly, and in due time leave nothing but the ribs or skeleton. They do their entire work—hatch, grow, complete their cocoons, and lay their eggs—in about forty days. The entire season, from the time that the eggs are set to hatch till the cocoons are gathered, sorted, and marketed, lasts about fifty days.

The worms, in their progress to maturity, undergo four physical changes, during which they shed their skins, and the sericulturist looks with intense concern to the results of these changes, for they are attended with danger to the worms. Sometimes the worms, especially in the last stages, die by wholesale. It is said that destructive diseases among the silkworms are less frequent in our days than formerly, owing to superior seeds and domestication. The health of the worms is regarded as of vital importance, hence they are frequently transferred to clean cases and care is taken to give them plenty of fresh air. For disinfecting the smoke of juniper wood is commended; also sulphur. The smoke of wood is said not to be injurious to silkworms.

The spinning of the cocoons.—When the worms are matured, ready to spin their cocoons, they become almost transparent. Oak twigs with dry leaves thereon are then carefully arranged over them. Often straw or other material is used. The worms go up these, select places, and proceed to emit a silk thread, and the work begins. It takes a worm seven or eight days of hard work to encase itself in a cocoon. It must keep pretty busy, indeed, for during this time, it has been estimated, it spins a thread 800 feet long—sometimes more than 1,000 feet.

Hours of labor.—I can not say how many hours a day are devoted to the care of silkworms, for the reason that the people have other duties, such as attending the crops on the farm. The silkworms must, however, have attention at all times of the day; less when they are young, but more as they grow larger. Then, too, the weather must be carefully watched, for an even temperature must be maintained. To this end, when necessary, fires are resorted to, smoke not hurting the worms, I am informed. The peasant women, who principally attend to the hatching and raising of silkworms, watch them with marked care, night and day, and hence can not begin and

quit work at stated hours. The silkworm requires special attention and care at particular times. I know of no industry that requires more diligent, intelligent, and untiring attention than the raising of silkworms.

By ages of culture—more than forty centuries, it is said—the silkworm has become so domesticated that it has no disposition to roam about, but remains in the open case or on the table where it is placed and fed. Were this not so, the labor of raising it would be infinitely greater, and perhaps the industry wholly impracticable.

Wages.—I am informed that women are paid about 30 cents per day and the men 50 cents. In some instances they get more, while I have known them to get much less. It is impossible to give any information regarding wages, for the reason that the wives of the peasants engage in the business as the wives of the American farmers in their domestic work; and when extra help is employed the women thus engaged are not given any established wages—20 cents a day in one place, 25 cents in another, and perhaps 30 cents elsewhere.

In some instances silkworms and cocoons are raised on shares, one party furnishing the land, the other the seed and labor. One peasant will furnish the mulberry leaves while the other party does the rest. I have no knowledge as to the precise details in such cases. They vary from place to place.

Cocoon raising at Villa Rovere.—I visited twice last year, at the close of the season, Villa Rovere, which is located about 2 miles from Turin, in a beautiful valley beyond the Po, and had good opportunities to make observations and to talk with a middle-aged peasant who has been engaged in the silkworm industry from his boyhood. He and his wife each year raise a good crop of cocoons. I found the cases and apartments scrupulously clean, a part of the crop completed, while in many cases the worms were ripe, ready to crawl up twigs and begin the work of spinning. The scene was one of exceeding interest. The peasant and his wife informed me that the silkworms take their first sleep when 6 or 7 days old. This sleep lasts about forty-eight hours, during which they eat nothing; the second sleep occurs when they are about 14 days old, and its duration is about twenty-five hours, sometimes extending to thirty hours; the third sleep, when they are about 21 days, lasts about as long as the second; their last sleep, like their first, lasts about forty-eight hours. During all this time of sleep or stupor, they eat absolutely nothing. Coming out of this condition all right, they eat for seven, eight, or even ten days, depending upon the race, some eating longer than others.

I saw that the worms were in spacious cases, having plenty of room, and that the room was admirably ventilated. The cases were in frames, one above the other, but with ample room between them. Each case was so arranged as to be convenient for the woman who tended the worms.

Gathering, sorting, and marketing cocoons.—When completed the cocoons are carefully gathered, assorted, and marketed. For sorting cocoons women are paid about 25 cents a day. The cocoons that are for silk are marketed, and the purchasers at once put them into furnaces and subject them to sufficient heat to kill the moths inside, when they may be reeled at any time.

Raising seed.—If the sericulturist desires to provide himself with eggs for the next year, he carefully selects the necessary number of cocoons, properly proportioning them, male and female, which can be easily done, the female cocoons being plumper and rounder than the male. These, in about twenty or twenty-five days, are perforated at the end, the moths, which are about one-third the size of the worms, bore through and appear fully equipped with wings, but give no indication of a desire to fly. They mate, lay their eggs, and, their mission having ended, die.

Appearance of cocoons.—Cocoons, when complete, somewhat resemble peanuts in form. They vary much in size, the largest being about three-fourths of an inch long and a little over half an inch in diameter. They also vary in color, some being white, others yellow, etc. When a cocoon has been bored through by the issuing moth it is spoiled, the fiber having been cut.

Reeling.—When the reeling is to be done a certain number of cocoons are placed in warm water. This work is done by women, who get about 30 cents a day, and often less. By means of sticks they find the ends of the fibers and attach them to the reels. The women keenly watch that no connections are broken, but when this occurs the reel is stopped and the proper connection is made. When cocoons are wholly unwound new ones are substituted and the work is continued. It is estimated that one person can reel about 1 pound of silk a day, and that the reeling costs 50 cents. When a certain amount of silk is wound on a reel it is taken off and tied into hanks or skeins, and is then, I understand, known as raw silk.

Government aid.—The Italian Government, I am informed, extends no aid to sericulture, but rather the reverse, by taxation.

PIETRO CUNEO, *Consul.*

TURIN, ITALY, *February 17, 1904.*

LIGURIA.

(From United States Consul Bishop, Genoa, Italy.)

SILKWORM CULTURE.

In this consular district, which comprises the ancient region of Liguria, cocoons are not raised commercially at present. The cultivation of the mulberry tree, to the small extent to which it once pre-

vailed, has been replaced by that of flowers and vegetables, which yield a much better profit.

SILK MANUFACTURES.

The last report officially issued covering the silk reeling, spinning, and weaving industry in this district was put forth by the ministry of agriculture and commerce in 1892. There were occupied in the silk industry at that time 337 hands. At the last previous report, in 1876, there had been 996. The declining ratio indicated has continued; the employees engaged in the spinning of silk have chiefly gone over into that of cotton, which has made great progress in the meantime. The silk industry here is almost negligible, except the weaving of costly fabrics, principally Genoese velvets, for decoration or costume.

This work is done entirely by hand. The few firms put down as manufacturers simply give out the work to be performed by operatives, generally peasants, at their own homes in the mountain villages. There is no machine-made velvet or tapestry. The machine-made fabric can be turned out at the rate of 18 meters (19.6 yards) a day, and sold at from 6 to 10 lire a meter ($1.15 to $1.93 for 1.99 yards), but the hand-made material is produced only at the rate, say, of one-half meter (one-half yard) per day, and costs from 10 to 25 lire a meter ($1.93 to $4.93 for 1.09 yards.)

A number of small concerns produce smooth or plain-surface velvet on the plan noted above. The house of Luigi Ardizzone, Via Roma, Genoa, is the most important in the region, and the only one that can be said to have a factory. This is situated at Quarto al Mare, but is without machinery. It is a place where, in addition to that distributed among the houses, hand work is done by some twenty operatives at most. No men are employed; the hands are girls from 12 years old upward. They work from eight to eleven hours a day, according to the weather, both very wet and very dry weather being deleterious to the process and causing a suspension of work. The maximum wages are 3 lire (58 cents) a day. The hours of the contadini, or peasants, working at home on their own account, may reach as many as fifteen. Some of the rich stuffs made here have been sold for as much as 350 lire a meter ($67.55 a yard).

The silk industry was historically one of the glories of Genoa, particularly, as we know by tradition, in the fifteenth century. Napoleon I is said to have given it a serious blow and led the way to the decline in modern days by transferring all the leading operatives to Lyon.

WILLIAM HENRY BISHOP, *Consul.*

GENOA, ITALY, *February 6, 1904.*

TUSCANY.

LEGHORN.

(*From United States Consul Smith, Leghorn, Italy.*)

I am enabled, through the courtesy of Messrs. Vellutini & Paoli, of Lucca, manufacturers of raw silk, to submit the following information in reply to the various interrogatories of the Silk Association of America as to sericulture in this consular district.

RAISING THE COCOONS.

Cost of production.—It is estimated that an ounce of seed will produce an average of 50 kilograms (110 pounds) of fresh cocoons. On this basis, and assuming that the silkworms produced from this amount of seed will consume on an average 10 quintals (2,204 pounds) of mulberry leaves, the cost of 50 kilograms of fresh cocoons ready for the reeler is estimated to be about as follows: To the proprietor of the mulberry orchards, at 8 lire ($1.55) per quintal of 220 pounds of leaves, 80 lire ($15.44); cost of an ounce of seed, 10 lire ($1.93); general expenses, paper, etc., 5 lire (97 cents); labor, 35 lire ($6.75); total, 130 lire ($25.09).

Number of operatives.—In this consular district the annual production of cocoons is estimated to be from 550,000 to 600,000 kilograms, (1,210,000 to 1,320,000 pounds), which gives employment to about 6,000 operatives. In this number are included those engaged in the manipulation, inspection, incubation, gathering of the mulberry leaves, feeding of the silkworms, etc.

Wages and individual production.—Women engaged in raising cocoons are paid an average of 1.15 lire (22.2 cents), and children 80 centesimi (15.4 cents) per day of twelve hours. Each operative is supposed to attend to the feeding of the product of 1 ounce of seed, producing 50 kilograms (110 pounds) of cocoons, from which a little over 9 pounds of raw silk can be reeled, the average ratio being 1 pound of raw silk to 12 pounds of cocoons.

Time required for crop.—For the hatching of cocoons from twenty-five to thirty days are required. In Italy but one crop of cocoons is, as a rule, raised during the year, although in this district a second crop is occasionally attempted, lasting from August to November. This is, however, of little importance.

Intelligence and character of the workers.—The operatives engaged in tending the silkworms and raising the cocoons belong almost entirely to the peasant class. Their opportunities for educational advancement are meager, since they are poor, and must therefore spend much of the time necessary for such education in work. They have, however, natural intelligence and adaptability for the work in which they are

engaged, and are tractable and reliable and but little given to following the suggestions of disturbing agitators.

Other occupations of silkworm raisers.—The larger number of them return to the ordinary farm work of the peasant when the cocoon crop is finished. Those who do not return to farm work, especially the women and children, find employment in the silk-reeling establishments at the same wages they received for their former work, namely, women 22.2 cents and children 15.4 cents a day.

Government aid.—The General Government gives no direct aid to this industry, except by fixing the tax on the crop at a minimum. In this district the various municipalities set aside localities for the convenience of buyers of cocoons during the season. These localities are let for small rentals, and both buyers and sellers pay a small local tax on the amount (by weight) bought and sold.

Precautions against disease.—The precautions taken in this district against diseases of the silkworm consist in the selection and examination of the seed by certain bacteriological institutions. The seed is sold under the guaranty of these institutions as to its freedom from infection of any kind.

Training of silkworm breeders.—It can not be said that in this district there is any serious organized system for the training of breeders of silkworms. It is, however, customary for the seller of the seed to visit frequently the various localities during the breeding season, to watch carefully the process, and to make such suggestions as he considers necessary for the success of the crop.

Mulberry tree growing.—The mulberry trees are carefully cultivated and cared for, set out generally in parallel rows, and at the end of the season trimmed and manured.

SILK REELING.

Sorting of cocoons.—The first sorting of the cocoons is done entirely by the peasants themselves, who simply divide the good qualities from the inferior. Upon delivery at the filature the cocoons are again sorted into various grades by more experienced persons.

Wages.—It is estimated that, on an average, each operator will reel from 350 to 400 grams (12.3 to 14.1 ounces) of raw silk per day. During the first year the apprentice is paid from 70 to 85 centesimi (13.5 to 15.4 cents) a day. The expert reeler earns on an average 1 to 1.15 lire (19.3 to 22.2 cents). Forewomen are paid from 2.5 to 3 lire (48 to 58 cents), superintendents from 3 to 5 lire (58 to 96½ cents) per day. As a rule, women and children exclusively are engaged for the reeling. For the more arduous work in handling the material, and as machinists, firemen, etc., men are employed, and receive an average of from 2 to 3 lire (38.6 to 58 cents) a day.

Hours of labor.—The hours of labor are not fixed by law, but vary according to the locality. In this district the working day is from ten to twelve hours. The operatives, generally speaking, have no other occupation aside from sericulture, either reeling in the filatures or raising cocoons.

Skilled instruction.—The process of educating operatives in their duties is a gradual one. Children from 12 to 15 years old are engaged and given a year to learn the trade, during which time they are employed largely in "finding the thread of the cocoons." Several hours each day are, however, given to practical instruction in reeling, and at the end of the year, if found capable, they are considered as reelers and paid the wages of that class of operatives.

Fuel.—The more important silk reeling establishments use steam, with coal as fuel. The smaller ones use wood or a material known as "sanza"—the olive nut crushed and dried, which possesses excellent calorific qualities. The wood used is pine, and costs about 16 lire ($3.09) a ton of 2,200 pounds. Sanza is sold at 13 lire ($2.51), and coal varies from 22 to 25 lire ($4.25 to $4.83) a ton.

GENERAL OBSERVATIONS.

It is without doubt true that silk growers and those engaged in the reeling or manufacture of silk in this district, as well as in other sections of Italy, conduct their business seriously, and that they are constantly studying ways and means whereby their output may be improved. They express themselves as being not only ready, but glad to receive advice or suggestions from buyers or consumers which will tend to bring to a higher standard the machinery now in use and methods at present followed, with a consequent betterment of the product.

JAS. A. SMITH, *Consul.*

LEGHORN, ITALY, *April 9, 1904.*

FLORENCE.

(From United States Consul Keene, Florence, Italy.)

INTRODUCTION OF THE SILK INDUSTRY INTO TUSCANY.

Early in the thirteenth century the silk industry was introduced into the district of Florence. Ancient records mention the consuls of that art. It was a little improved by the inhabitants of Lucca, who sought refuge in Florence at that time. About the end of the fifteenth century the silk art boasted of 84 factories, producing silk and gold stuffs and silver brocades, which were disposed of in France, Switzerland, Spain, Sicily, Turkey, Syria, and even in Great Britain and Germany. Cocoons were not raised in Tuscany until later, and at this time the raw silk was imported. There is great contrast between the present

dullness and the luster of the past. The number of throwing and twisting mills is now very limited. They are not self-supporting, on account of limited business. Silk twisting is retarded by the great competition of Asiatic silks and by the lack of exportation of the local product to foreign countries.

THE MULBERRY TREE AND SILKWORM RAISING.

Introduction into Italy.—Mulberry-tree culture marks the first steps made by the silk industry when the silkworm was brought into Europe. At Constantinople mulberry trees and silk worms made their appearance during the empire of Justinian, and then spread to Greece. About the end of the twelfth century merchants of Lucca, in trade with Sicilian seaports, brought from that island the mulberry plant and the silkworm, introduced there in 1146 by Ruggero the Conqueror, the first King of Sicily, on his return from Greece after subduing the Peloponnesus.

The raising of silkworms was an easy matter in Tuscany, and also the planting of mulberry trees on the farms and along the public roads. It is curious to note among the records a ban of the city magistrate of Pistoia, dated October 5, 1561, by which the planting of mulberry trees along the public roads was forbidden, and the rooting out of the existing ones ordered. Two centuries later this decree was repealed by Grand Duke Leopoldo, and the planting of mulberry trees was encouraged.

Present culture of mulberries.—Mulberry trees are now seen on the hills and in the plains, surrounding cottages, or in rows in the fields. The oldest plants belong to the fruitless variety, called arancina. Recent plantations are mostly of the morettino kind, with untwisted leaves. The Philippine mulberry tree, with larger leaves, is rarely used. The arancina requires little pruning, while the morettino, which may be pruned to a pollard, gives a larger product, and is preferred. The pruning is usually done late in the autumn, and sometimes in the winter. Mulberry trees are propagated by grafting to some extent, but chiefly from seed. Where the winter cold is not intense the seed is sown at the end of summer as soon as the berries of the tree are ripe.

Raising the worms.—Sericulture in Tuscany, except at Anghiari (Arezzo), is now very limited. In most cases the raising of silkworm eggs is taken care of by the farmers, who share the profit with landlords. The latter provide the seed, charging one-half to the account of the farmer. The quantity distributed to any single farmer seldom exceeds an ounce, and is often limited to a few "anelli" (the twelfth of an ounce, so called because anciently the seed was measured through a thimble, "anello da cucire"), and is always proportioned to the estimated quantity of leaves produced on the farm. Therefore there is no active trade in the leaves, which are sold or bought only when the

product exceeds or is less than the actual need. Under these circumstances the price of the leaves may fluctuate from 8 or 9 lire to 25 and over per quintal of 220.46 pounds, or from $1.53 to $4.82. If leaves must be bought the loss falls on the landlord, and if superfluous leaves are sold he has the profit. In some localities where the leaves abound it is not only the farmers who engage in sericulture, but even laborers, sometimes on their own account, with leaves that they purchase, and sometimes on shares with an owner who furnishes eggs and leaves. The work so done by farmers and laborers is not attended to with all desirable care, nor in satisfactory premises, though all know that the culture may be remunerative.

Varieties.—The seed is almost entirely of local production, and notwithstanding the small importation from other provinces or foreign countries, there is a large exportation from Italy, especially from Anghiari (Arezzo). The Japanese worms, formerly much favored, are almost discarded in favor of the indigenous yellow cocoon, white worm.

Diseases.—Of diseases, atrophy has disappeared completely. "Calcino," or stopping of excretion, often appears, but in a mild way, and the consequences are not noteworthy. Where there is great fear of cold the breeders use brasiers to warm the worms, and many die of "vaccume." The prevailing disease, very noxious, is the "flaccidezza," flabby flesh, against which many remedies have been tried in vain.

Average products and wages —The average product in cocoons for each ounce of seed is from 30 to 35 kilograms (66.138 to 77.161 pounds), and even more. Twelve kilograms of cocoons (26.4552 pounds) equal 1 kilogram of silk (2.2046 pounds). A hard silk spinner, male, earns $3.50 a week; female, $1.75. A weaver on hand looms, male, $5.50 a week; female, $3.

SILK INDUSTRY IN THE PROVINCE OF AREZZO.

The number of mills in the province of Arezzo may be estimated at 40, of which perhaps 30 have steam motors, but many are inactive. The latest official information states that the stretching mills in operation are 12, employing 500 persons, males and females, working two hundred and ten days per annum, in 475 basins.

Quantity and value of cocoons marketed in the province of Arezzo, 1894–1903.

Year.	Pounds.	Value.	Year.	Pounds.	Value.
1894	1,070,016	$243,822	1902	994,517	$304,821
1895	1,000,145	287,541	1903	783,594	268,586
1896	950,465	232,604			
1897	830,550	182,521	Total	10,143,926	2,913,497
1898	1,041,528	287,381			
1899	1,154,615	411,820			
1900	1,149,375	359,819	Average	1,014,392	291,349
1901	1,169,121	334,582			

SILK INDUSTRY IN THE PROVINCE OF FLORENCE.

The number of stretching silk mills in the province of Florence is 13; the number of steam basins, 439, and of fire basins, 88; help, males, 48, and females, 986.

FRANCIS B. KEENE, *Consul.*

FLORENCE, ITALY, *July 18, 1904.*

EMILIA.

(*From United States Consular Agent Gardini, Bologna, Italy.*)

Silk production in Emilia.—Silk culture in the provinces of Bologna, Ferrara, Modena, Reggio Emilia, Forli, and Ravenna gives a contribution to the annual production of cocoons reaching on an average 2,500,000 kilograms (5,511,000 pounds), which represents a yearly average of about 270,000 kilograms (595,242 pounds) of raw silk. The product of each of these provinces is inferior to that of most of the provinces in North Italy, but superior to that of those in South Italy.

The world's silk production.—The quantity of raw silk produced throughout the world in the year 1902, as stated in the statistics published under the direct control of the syndicate of the Silk Merchants' Union at Lyon, is about 18,764,000 kilograms (41,367,114 pounds), distributed as follows:

The world's production of raw silk in 1902.

Country.	Kilograms.	Pounds.
Europe:		
France	570,000	1,256,622
Spain	78,000	171,958
Austria-Hungary	312,000	687,835
Italy	4,447,000	9,803,856
All other	30,000	66,139
Total	5,437,000	11,986,410
Eastern Europe and western Asia:		
Anatolia (Brussa)	503,000	1,108,913
Syria and Cyprus	540,000	1,190,484
Salonica and Adrianople	190,000	418,874
Balkan States (Bulgaria, Servia, and Roumania)	130,000	286,598
Greece and Crete	65,000	143,299
Caucasia	465,000	1,025,139
Persia and Turkestan	550,000	1,212,530
Total	2,443,000	5,385,837
Far East:		
China—		
Exported from Shanghai	3,600,000	7,936,560
Exported from Canton	2,219,000	4,892,007
Japan, exported from Yokohama	4,770,000	10,515,942
India, exported from Calcutta	295,000	650,357
Total	10,884,000	23,994,866
Grand total	18,764,000	41,367,113

Cost of cocoon production—Silk culture in this district is generally carried on by the farmer's family on half-product contract (mezzadria) with the landowner. The money got from the sale of the cocoons is divided into two equal parts between the farmer and the landowner. If the mulberry trees are not cultivated on the farmer's field the necessary leaves must be bought by the landowner, but they must be gathered by the farmer. The wood (bosco or frascata), namely, a sufficient quantity of dry, small branches where the silkworms are put to weave the cocoon; the fuel for artificial heat, when wanted; the artificial light, and the necessary paper must also be bought by the farmer. The average price of each ounce (30 grams) of seed in the last few years has been 12 lire ($2.31). About 12 metric quintals (2,645.52 pounds) of leaves are necessary to feed the silkworms from 1 ounce of seed, and when the market is normal their cost may be calculated at about 5 or 6 lire (95 cents to $1.15) per quintal. The expense for gathering the leaves is not included in this price, as it must be borne by the farmer. It is impossible to state the expense for artificial heat. In this district fire is very seldom wanted, and therefore the expense is small. The expenses for artificial light and for paper are also insignificant.

Silkworm culture.—Silkworms require about fifty days from their incubation to the complete formation of the cocoon, and during that time all the farmer's family is busy about them, chiefly the women. In the last fortnight of their life the silkworms from 1 ounce of seed require the continual work of two persons besides the one who gathers the leaves.

The time necessary to hatch the eggs varies from ten to fifteen days, if during the winter the eggs have been kept, as is best, at a low, constant temperature, viz, for eighty days at 32° F. in refrigerators. The heat necessary to hatch the eggs is 70° F.

Diseases.—After 1855 a disease of the silkworm (pebrine or atrophy) had destroyed almost completely the indigenous races in Europe. Therefore the silk growers in these provinces were compelled to direct their attention to China and Japan. It was in the latter country that, after many investigations, they found worms suited to Europe, to Italy in particular, and for several years these eggs were imported in large quantities. But after a short time the Japanese silkworm also was caught by the atrophy. The germ of this disease having been discovered, the Italian races were little by little regenerated by microscopic selection. The director of the Royal Observatory for Silk Culture in Bologna contributed greatly to this regeneration, having found in the Apennines, near Tuscany, a small colony of silkworms almost exempt from the deadly disease. From that time silk growers, in order to be certain to get good eggs, abandoned almost entirely the old, irrational, and often dangerous system of themselves reproducing the eggs they wanted, and began to buy them, as they still do, of the

royal observatories which the Government founded in the silk-growing districts, or of private establishments put under the control of the above-mentioned observatories.

In these observatories there are public experimental cabinets for the microscopical analysis of silkworms, chrysalids, butterflies; apparatus for the laying, gathering, and hatching of eggs, and refrigerators for the winter preservation of eggs. Every operation is performed according to the latest and best systems suggested by the most careful experiments, and nothing is neglected in order to secure eggs of the first quality, exempt from pebrine or atrophy. In this way the silk-growers are greatly helped to get a good and abundant crop.

Besides this disease, several others may injure the silkworm, viz, flaccidity, yellowing (giallume), and calcination (calcino). Of these last three diseases, the first only is not scientifically known. Therefore science can not suggest a means of curing and eliminating it; but in these provinces it is not common.

Yellowing is an accidental infection, not very dangerous. It can be easily cured or eliminated by a hygienic method of breeding silkworms. Calcination, as analyses have shown, is produced by a cryptogam vegetating within the worm. This cryptogam always has its origin in spores that enter the silkworm, either with the air it inspires or with the leaves it eats. This disease can be eliminated by means of fumigations with sulphurous gas, which destroy the germinative power of these spores. These two diseases are not hereditary, and they are not so deadly as pebrine or atrophy.

Varieties.—The most widespread and purest indigenous races in these provinces, the regeneration of which, as we have seen above, is mostly due to the director of the Bologna Royal Observatory for Silk Culture, are the Giallo Ascolano (yellow of Ascoli) and the Giallo Brianzalo (yellow of Brianza). The experiments of the last few years have shown that these races produce a very good, fine silk, and cocoons which give an abundant product when manipulated at the basin. These silkworms resist diseases, and the same may be said about their butterflies, which have always been vigorous, full of life, and which can even lay 500 eggs for each coupling. These eggs sell very well, not only in Italy, but also for export to France, and in recent years even to Hungary and to the Balkans, where silk growing has begun to develop.

Wages and hours of labor.—As has been stated above, the people who work at raising cocoons are not paid individually, the gain being divided equally between the owner and the farmer. Consequently, it is not practicable to say what is the pay of women and children. All the farmer's family is busy about the silkworms, and the members of the family succeed one another when, in the last days of the silkworms, the work does not admit of any interruption.

Cocoon crops.—There is only one cocoon crop a year, as the races here cultivated are annual. There are races called "bivoltine," which produce twice a year, but as the cocoon is of inferior quality, and as the gathering of leaves a second time always injures the trees, these races are not cultivated.

Product of 1 ounce of seed.—The average weight of the cocoons from 1 ounce (30 grams) of seed is 55 kilograms (121.153 pounds).

Intelligence and character of workers.—The countrymen in this district are rather intelligent. They have not much technical skill, but by practice and tradition they grow silkworms with diligence and success. They are generally honest and good-natured. Socialism is little known to the countrymen in these provinces, and agitators have little influence with them.

Other occupations of cocoon raisers.—After the cocoon crop, which ends in the first days of July, these countrymen continue tilling the farms on which they live.

Production of seeds.—The business of the royal observatories and private establishments for silk culture in these provinces is the production and winter preservation of the seed. Therefore their principal work is from April, the beginning of the incubation, until the end of October. The work is generally done by women, under the superintendence of the directors, and is designed to get good seed from special growths of pure Italian races. Much care is taken about the birth of butterflies, which, after they have been coupled, are put into special isolated cells. Microscopic examinations are made to select the good eggs and to eliminate the bad ones. In October the eggs are taken up from the place where the butterflies laid them and are washed.

In these observatories and private establishments, working eight hours a day, the women microscopists earn more than 2 lire a day (38.6 cents), and those who perform simple manual work earn 1 lira (19.3 cents). When the work is over until it is taken up again, namely, from the first days of November to the first days of April of the next year, these women find other occupations.

Marketing the cocoons.—After the cocoons are finished, they are brought to the market, for which, in almost every town in Italy where silkworms are grown, the municipality has assigned a special place, under rules to protect both sellers and purchasers. These rules are fixed by a commission chosen by the agrarian committees, and provide for a record of the bargains concluded. Everything is daily published in a bulletin, which is printed during the season in which the market is open.

Suffocation of the chrysalids.—From the market the cocoons are sent to the exsicators for the suffocation of the chrysalids. For this operation three systems are here in use. The first (Betti's system)

uses direct radiation of heat. The second uses warm vapor. In the third (Bianchi-Dubini system), the cocoons are put in a current of air which has a temperature of more than 165° F.

Storage and final sale of cocoons.—The cocoons, after this operation, are brought into the galletiere (cocoon warehouses), and are there preserved until they are sent to the silk-spinning mills (filande). The cocoon warehouses are large buildings 6 or 7 meters (23.6 or 27.6 feet) high, with huge windows opposite one another, so as to have perfect ventilation. In these large rooms cocoons are put on wire nets, placed at a certain distance from one another, so as to have them in free and continual circulation of air. The cocoons in these provinces are generally bought by Lombard or Piedmontese spinners, whose mills are almost all in the north of Italy. After the cocoons have been spun in these mills, the raw silk is partly used by Italian silk factories and partly exported abroad.

Government aid.—The Government does not give any help in money, but instruction in silk culture is given gratis by the royal observatories.

Mulberry tree culture and diseases.—Mulberry trees require manures which contain principally nitrogen and phosphorus, good tillage, rational pruning, and the greatest care in gathering the leaves. From many experiments it has been proved that the seedling trees are to be preferred. In these provinces the mulberry trees have not been injured by Diaspis pentagona, an insect which appeared in 1866 and is still prevalent at several spots in Lombardy. It is as deadly as the phylloxera for vines, destroying the leaves. It can be cured by insecticidal solutions, which the law directs shall be applied as soon as the infection appears.

Work in the spinneries.—In silk-spinning mills only women and girls are employed. One woman can reel from 400 to 500 grams (0.8818 to 1.211 pounds) of silk a day, if the cocoons are of good quality, and a cocoon of good quality may give as much as 1,000 meters (3,280 feet) of thread. In a silk-spinning mill a woman earns 1.20 lire (23.2 cents) a day during the first year; a girl 0.90 lira (17.4 cents), and even 1 lira (19.3 cents). The usual price per pound for reeling can not be stated, because the spinners work by the day and not by the job, because of the different qualities of cocoons, and because of the different ways of spinning, as the thread may be single, double, or triple. Head machinists in silk-spinning mills earn about 120 lire ($23.16) a month; inspectors from 170 to 220 lire ($32.81 to $42.46). At present the hours of working are fixed by law, and can not be more than ten a day.

Special care is given to the education of operatives by inspectors and overseers, who superintend the silk-spinning mills.

The water in the basins of the silk-spinning mills must have a temperature above 140° F., and it is generally warmed by steam. The

expense can not be stated, as it varies from town to town, according to the cost of fuel. At the basin (lavaro dello scopino) brushing is done by a machine of recent invention.

Improvements are continually introduced, chiefly in the great silk-spinning mills in Lombardy. In this district mills are few and not very important; therefore details and information as to the improvements can better be had from those which are at Milan, Como, Brescia, etc., for these are the principal places where silk is spun and woven.

CARLO GARDINI, *Consular Agent.*

BOLOGNA, ITALY, *July 10, 1904.*

CAMPANIA.

(From United States Consular Agent Ciampa, Sorrento, Italy.)

The silk production in this district is inconsiderable. There are no mulberry orchards, but a few mulberry trees grow at random and receive no special care or scientific treatment. All the processes of feeding the silkworms, raising the cocoons, and reeling the silk are carried on by individual peasants, who sell the product.

There has been lately a revival of the silk industry in the Neapolitan provinces, and the great hope for the future is in cooperation on the part of the growers. It is to be tried as an experiment for three years, mainly through the generosity of a landowner in the provinces, who has placed the necessary premises at the disposal of a local agricultural society. The model to be followed is that of Professor Sensone's Society in the Province of Cremona. This society is composed of 160 members, all silk producers, and has been in existence since the year 1900. Its object is to collect the cocoons grown by its members, to dry them scientifically, and to dispose of them to the best advantage in the market.

The manufacture of silk is conducted in Sorrento, and most people are conversant with the tasteful articles turned out by the Sorrentine looms in the shape of caps, ties, purses, stockings, and other fancy goods. Silk is largely used for sleeve lining. A good deal is used for ladies' underwear, as well as for dressing jackets, tea gowns, etc. Great success has lately been obtained. Sorrento is now sending out ladies' blouses and shirt waists ready made in fancy silks. These can be had in any color and in a great variety of combinations of colors. They have had a large sale, and are being sent out by the hundreds weekly.

FRANCESCO CIAMPA, *Consular Agent.*

SORRENTO, ITALY, *February 20, 1904.*

SICILY.

CATANIA.

(From United States Consul Heingartner, Catania, Italy.)

Formerly the silk industry of Catania was of considerable importance, and Catania's silk was celebrated for its quality. About twenty-five years ago some disease attacked the mulberry trees to such an extent as to seriously curtail the supply of raw silk, and, in addition, the rapid development of the silk industry by machinery in northern Italy caused competition which could not be met and drove Catania from the field entirely. Mulberry trees were cut down and the ground used for other purposes.

ALEXANDER HEINGARTNER, *Consul.*

CATANIA, ITALY, *March 14 1904.*

MESSINA.

(From United States Consul Caughy, Messina, Italy.)

Division of expenses and profits.—In this district the landowner furnishes mulberry leaves, the seed (which is not raised here, but comes from Ascoli Piceno, Milan, and France), and all other requisites to the peasant or farmer, who receives one-fourth of the cocoons as pay for his labor.

Persons employed and product.—There are no persons who follow raising cocoons as a sole source of support, but there is scarcely a peasant or farmer who does not raise some, it being calculated that there are employed during the season about 35,000 people hatching the eggs, gathering the leaves, and feeding the worms. Besides sericulture, the operatives engage in farming.

Three persons are required for one package of 30 grams (about 1 ounce). The average quantity of cocoons, in weight, produced by this number of silkworms is 45 kilos (99.2 pounds), and the average quantity of raw silk, in weight, reeled from this quantity of cocoons is about 4½ kilos (9.9 pounds).

Wages and hours of labor.—It is estimated that 50 centimes (9.65 cents) for children and 1 lira (19.3 cents) for women per day is the average daily wage. In the season some one must be in attendance day and night for forty-five days.

Spinning.—In the filatures the average daily yield is about 430 grams (0.95 pound) per reeling basin. Work is paid by the day, not by the piece. Women and children only are employed. Women average from 0.85 lira (16.4 cents) to 1.05 lire (20.3 cents); children from 0.50 lira (9.6 cents) to 0.75 lira (14.5 cents). The average pay of

female overseers is 1.50 lire (28.95 cents) a day; the pay of directors is from 2,000 to 3,000 lire ($386 to $579) per annum.

No special care is given to the education of operatives in their duties, or to anything except machinery. The arrangements in the filatures are primitive in the extreme.

Coal costs about 30 lire ($5.79) per ton, delivered at the filature.

CHARLES M. CAUGHY, *Consul.*

MESSINA, ITALY, *March 19, 1904.*

CHINA.

HANKAU DISTRICT.

(From United States Consul-General Wilcox, Hankau, China.)

Sericulture is conducted in a primitive manner in this consular district, which comprises about eight provinces, or nearly one-half of China. The provinces of Hupeh, Hunan, and Szechuan are engaged n sericulture quite extensively, and it is carried on to a more limited extent in the other provinces of this district, which includes portions of Honan, Shansi, Shensi, and Kansu on the north and Kiangsi and Kuichau on the south. To procure any definite information on this subject in this vast district is out of the question without visiting various parts of the country.

M. Roudot, president of one of the juries of the Paris Exposition and interested in the silk industry of France, in 1878 requested Sir Robert Hart, of the Chinese Imperial Maritime Customs, to institute inquiries regarding sericulture in China. This was done by the customs staff in 1880 and the report was published in 1881. But this report dealt mostly with the southern and eastern provinces of China, where sericulture is extensively carried on.

AGE OF THE INDUSTRY.

Sericulture, tradition says, began in this country during the reign of the Emperor Huang-ti, about two thousand years ago, and was introduced by his consort, Yuan-fei, who has been deified as the Goddess of Sericulture, and to whom sacrifices are offered at the temples in the spring when the season for the rearing of silkworms opens. But there is little doubt that the rearing of silkworms began at a much earlier date. The industry was at first carried on solely under the supervision of the Imperial household, and it was only after a long period had elapsed that the common people were allowed to engage in it. The original primitive methods are still in vogue in the greater part of the Empire. China has not arrived at that stage of sericulture where this industry is carried on in a scientific or businesslike manner.

RAISING COCOONS.

Distribution of expense.—About 30 per cent of the cost of the cocoons goes to the landowner for his mulberry trees; 20 per cent to general expenses for seed, paper, fire, and sundries, and 50 per cent to the laborer. These are but rough estimates, for no two Chinese give the same figures.

Persons engaged.—A large percentage of the farming class in the provinces of Hupeh, Hunan, and Szechuan is engaged more or less in raising silkworms. The women look after them and seem to consider it more of a pastime than work and an easy way to add to the limited resources of their families. They do it somewhat as American farmers' wives sell butter and raise chickens and eggs to a limited extent for the market. They raise a few pounds of cocoons and reel the silk on an old-fashioned spinning wheel, and sell their year's produce of silk to the merchant. It often amounts only to from $1 to $5, the product of from 1,700 to 8,500 cocoons. This class produces in the aggregate the majority of the reeled silk in these provinces.

Product and prices.—No reliable estimate can be made of the number of silkworms each operative can feed and look after, as the family does not depend entirely on that work for a livelihood. The majority engaged in the work devote only part of their time to it. But the estimate obtained is that a man and woman could feed and look after 10,000 to 12,000 worms. The growers do not take the trouble to weigh the cocoons, and their ideas as to how much food will be required to rear a thousand silkworms or how much silk 1,000 cocoons will produce is very hazy. They state that about 300 cocoons weigh a pound; that 9 pounds of good cocoons will make 1 pound of silk; that a pound of cocoons, first quality, is worth 17 cents; second quality, 13 cents; that white or yellow silk is worth, first quality, $4.22, and second quality, $4.12 per pound, and that it takes 350 dried cocoons to make a pound of silk.

Intelligence and character of silk growers.—As a class the silk growers are generally intelligent, tractable, and reliable. But once they are taught a certain way they are very persistent and do not like to change to another method. There is no disturbance from agitators.

Other occupations.—After the silk has been reeled from the cocoon crop the women and children have only their usual house and farm work to attend to.

Government aid.—The Government does not aid the sericulturist in any way.

Diseases of the silk worm.—No special precautions are taken by the sericulturist to ward off the diseases of the worm, except that they try to prevent the worms becoming chilled, to keep the mats on which they are raised clean, and to give good ventilation; and they refrain from

cooking certain odorous food during the time the worms are feeding and making their cocoons.

The worm must be of a hardier species than those in Europe, for the attendants remove the refuse but once a day, feed the worms less frequently than in France or Italy, and do not use perforated paper for the worms to crawl through onto the fresh leaves. Mosquitoes and flies destroy a great many silkworms, even after they begin to spin their cocoons; the former by stinging and the latter by depositing their eggs on the worm.

Training of breeders of silkworms.—No special attention is given to training help for this line of work. Any special knowledge the people have is handed from family to family or from mother to daughter.

Hatching and care of the silkworms.—The silkworms are reared and cared for by the women and children. They do all the manipulation of the moth, assort the seeds or grains, keep them until needed rolled up on the paper upon which the moth deposited them, and attend to hatching the eggs and feeding the worms. It is a very common custom for the women to carry the eggs next their bodies to facilitate the hatching. The eggs are often put between the covers of the bed at night to assist in the hatching process. It becomes a necessity if the weather is cool, as no stoves are used among that class of natives.

Smoke and fumes from the charcoal brazier on which the natives cook their food are likely to prove injurious to the worms, and the cooking, as a rule, is not done in the room where the silkworms are fed.

The weaving of the cocoons.—The silkworms weave their cocoons in what are called silkworm hills made of bundles of straw tied in the middle and placed upright on reed mats, supported by trestles 2 feet high. The bundles of straw are placed in rows and support one another. Each bundle holds 60 to 70 worms. The worms spin much faster in warm weather. In cool weather fire must be placed around the worms, or they will stop spinning.

Sorting the cocoons.—After being spun the cocoons are assorted. The following grades are kept separate: Flossy cocoons, spun by worms that have sore mouths; maggot-bitten cocoons (the maggot emerges and pierces the cocoon); filthy cocoons (worm having died after spinning and soiled the cocoon); misshapen cocoons; urine-stained cocoons; double cocoons. These cocoons produce only refuse silk.

Export of silk.—Comparatively, a small quantity of the silk produced in this district is exported.

Wild silkworms.—In the province of Kuichau a considerable amount of silk is obtained from the cocoons of the wild silkworm, two crops of cocoons being gathered annually. These worms can endure wind and cold, but not constant rain. They spin themselves into cocoons which are gathered in the early days of June. In September the second crop of cocoons is gathered. The wild silkworm is smaller than the domestic worm and is of a grayish black color.

General observations.—As remarked before, there is no improvement in the manner of conducting sericulture in this district. If there is not a good crop of cocoons the natives imagine the Goddess of Sericulture has been offended; if the crop is good she is pleased. The crop depends on her moods.

MULBERRY TREE GROWING.

Little or no attention is paid to the cultivation of the mulberry tree. It is allowed to grow wild. The trees are not trimmed. All but the top leaves on the trees are gathered annually by the men and boys. I am informed that mulberry leaves cost in this locality about two-thirds of a cent per pound, but they often sell for half a cent. In many cases a person having mulberry trees sells the leaves on each tree for a definite price. A small mulberry tree has from 25 to 70 pounds of leaves, which sell for from 15 to 50 cents. A large tree may have as much as 250 pounds of leaves. The price of the leaves depends on the supply and demand, as will be seen by the following communication which I have received from Kashing under date of May 31, 1904:

The silk crop is unusually good this year. The weather has been the most favorable for years. Such was the abundance of worms on the one hand and such the scarcity of mulberry leaves on the other that the price of leaves rose in some places from $3 to $5 Mexican ($1.35 to $2.25 United States currency) per picul (133⅓ pounds), being more than the price of rice. Toward the close of the season last year leaves sold for 13.5 cents United States currency a picul, and people were glad to get rid of them at that. Toward the close of the season this year the market was pretty steady at $1.35 United States currency. Those who made the most this year are those who had leaves to sell. Some bought leaves heavily and will lose accordingly. Others who have a good output of cocoons have but a small margin of profit on their labor, as the price of raw silk is low compared with the price last year.

I am indebted to a correspondent (Mr. Kleinwachter) for the following:

In some localities in China where the silkworm industry is engaged in extensively as a means of livelihood much attention has been paid to the cultivation of the mulberry tree in the last thirty years. The wild mulberry tree is called the sang and the domestic mulberry is known as the lusang; it is also called husang, because it comes from Huchau, the great silk-producing center. The leaves of the sang variety are thin and small, but the tree has a strong trunk and is well rooted, while the lusang has large thick leaves and berries. Most of the mulberry plantations are started with the sang species, upon which is grafted the lusang when the trunk is about an inch thick. The grafting takes place in April and May. The trees are trimmed and kept about 6 feet in height; only a certain number of branches are allowed to grow, and the trees of these plantations produce 65 to 80 pounds of good leaves. The time for trimming up the tree is in November. The plantations are kept free of long grasses and are well manured.

When old trees become decayed and hollow, young shoots are planted to replace them. The leaves are fit for food early in April. In May and June the leaves are 5 inches wide and 6 inches long. The silk produced from worms fed on the domestic mulberry is brilliant and soft and can be worked into the finest thrown silk.

In some localities the worm is generally fed on the leaves of both of the above varieties of the mulberry tree in the proportion of two parts of the leaves of the sang to eight parts of the lusang. Oak leaves are fed to young worms in many localities.

SILK REELING.

Number of operatives and wages.—There is only one silk filature in this consular district, and that is owned in part by the viceroy and is located at Wuchang. There are 400 women and girls employed. The women and older girls receive from 5 to 10 cents gold per day as reelers. The younger girls, who are called scalders and attend to the cocoons in the hot water and carry them to the reelers, receive about 2½ to 3 cents per day for eleven hours' work.

Seasons and hours of work.—The number of days the filature runs depends upon the amount of orders for silk and the supply of cocoons; if there is a sufficiency of both the filature runs for about nine months in the year. During the hot days of July and August it works only from 6 a. m. until noon, and during the fourth moon it stops work for twenty days to buy cocoons in the surrounding districts. The 1st and 15th days of each month are holidays, and the employees also take several days off at the Chinese New Year.

The work begins at 6 a. m. and continues to 6 p. m., with an intermission at noon of one hour. If any of the operatives are not punctual they are fined.

Training of reelers.—No special care is taken to teach the reelers, as the work is considered simple, and the assistants or scalders are promoted to reelers after working six months as assistants, or before that, if they have a little influence.

Superintendent and overseers.—The filature is in charge of a Chinese superintendent, and there are four overseers who look after the reelers to see that they work steadily and reel the silk properly. There is no foreign superintendent or overseer. The Chinese superintendent receives $50 Mexican ($22.50 United States) per month, assistant superintendent $40 ($18 United States), and overseers $12 to $20 ($5.40 to $9 United States), but in every business run by Chinese there is the "squeeze," which often amounts to three or four times the wages a superintendent or overseer will receive. This "squeeze," within certain bounds, is considered legitimate.

Amount and quality of product.—There are 208 reels in the filature. Each reel is attended by one woman, who has a scalder who keeps her supplied with cocoons. An expert reeler will not reel at the most

more than 10 ounces of silk per day, and others average from 6 to 8 ounces. The silk is not so fine as that turned out at Shanghai and Suchau. The superintendent says that there are three crops of silkworms in this province (Hupeh), which are all obtained during the fourth moon (May 17 to June 13). The first part of the month the cocoons are the best. Those of the middle and last part of that month are called "thin skins" and are of an inferior quality.

Improvements.—Little or no attention is given to the introduction of improvements in the filature.

Fuel.—As Wuchang is situated in latitude 31°, no artificial heat is used except that for heating the water for the cocoons, the heat from four or five hundred people keeping the filature sufficiently warm. The price of moderately hard coal is about $4.50 a ton. It varies according to the fluctuation of exchange. If exchange is high the price is increased, but the price does not usually fall when exchange becomes better. The country people use any kind of fuel—grass, leaves, twigs, rushes, reeds, etc.—to keep the water boiling for scalding the cocoons.

L. S. WILCOX, *Consul-General.*

HANKAU, CHINA, *June 17, 1904.*

HANGCHAU DISTRICT.

(From United States Consul Anderson, Hangchau, China.)

DECLINE OF THE CHINESE SILK TRADE.

It is of more than mere business significance that the silk trade of China, once the greatest in the world, for centuries the controlling factor in the trade in fine fabrics the world over, and until a comparatively few years ago one of the objects of romantic and speculative interest among many peoples and in many lands, has come to the parting of the ways. There is abundant evidence at hand that the silk trade of the Middle Kingdom has reached a critical point in its history, and it remains to be seen whether the Chinese will seize their present opportunity to establish that business, as well as others, upon a modern and economically sound basis, or whether they will suffer it to still further decline until it becomes more and more a local industry for local markets. At present the trade is in a transitional state. For a number of years competition from abroad has been felt keenly and the comparative decline in China's silk business has been steady. There has been an increase in the amount of waste silk produced and exported, but competition has so affected the market for the finer grades of the product that Chinese merchants have been forced to appreciate the fact that there is something essentially the matter with

their economic methods or business situation. In view of ready markets, cheap transportation, and other favorable elements, they have not been able to explain their position as due to other causes than out-of-date methods of production and manufacture. A favorable climate and reliable labor, cheaper than any other nation can expect to furnish, give China an immense advantage. But progressive methods have been inaugurated reluctantly and are pushed with little energy. While silk is the chief means by which China now pays its foreign debts, only the adoption of modern methods of cultivation and manufacture will save the silk industry in China as an international trade element. There is a little progress, but it comes very slowly.

It is remarkable that the silk business of China has endured so long as it has, in competition with that of countries where every stage of the process of producing silk, from the planting of the mulberry tree to the very cover of the finished package of cloth, is governed by science and constantly improved methods. The very fact that China is still in the race, and that it is still able to sell its goods all over the world, is ample demonstration of the immense natural advantages it has in the culture of the mulberry tree and the silk industry generally. A fair knowledge of the processes of silk making is had by an immense number of people in the country, and apparently it would take comparatively little modern instruction, with the introduction of a few changes, to restore China to the front rank in the silk business. As it is, the silk exports of Hangchau, one of the famous silk cities of the world, fell off 20 per cent in value last year, and there has been a steady decline all over the country for more than a decade past. This decline in China's exports of silk has been going on too long and too steadily for it to be anything but permanent so long as present conditions prevail.

THE SILK GUILD.

The situation in the silk business of China is peculiar. Like all other lines of industry and trade in China, it is controlled by a guild, one of the most powerful organizations of a commercial sort in the world. The members of this silk guild are among the wealthiest men of China, and as a rule may be classed among the most conservative of people, opposed to modern innovations, modern learning, and Western ideas generally. But they are face to face with the proposition that unless they turn to Western ideas and Western learning at once, their business, with all that it means to China and themselves, will be irretrievably lost. The progressive element in this old stronghold of Chinese conservatism is rapidly increasing in strength. Actual present day loss is a powerful incentive to reform.

The silk guild is jealous of its privileges and brooks no opposition among the Chinese. One way or another, sooner or later, it works a

profit out of all cocoons raised. It regulates the styles and qualities of silks manufactured and sold and, so far as the producer can do it, regulates the prices at which they are sold. Like other Chinese controlling agencies, however, the silk guild does no more in the silk business than is necessary to insure its control and profit. A large number of people, therefore, deal in silk and cocoons, and so long as the silk guild can control their product there is no complaint.

FOREIGN AND NATIVE METHODS IN CHINA.

In the past few years foreigners have been dealing much in silk in China and have bought a large share of the cocoon crop. They have erected steam filatures and have endeavored to place the silk business on a more modern basis. They have found the business profitable, as a whole, but the Chinese silk people manage to make silk in the same old manner and sell as cheaply as those employing modern methods. The quality of the silks the Chinese put out with their old methods seems to be all that can be desired. The silks sent to Peking for tribute and for the use of the Imperial household, wonderfully rich and heavy enough to stand alone, are made by the time-honored Chinese methods on rough looms and with the usual division of labor from the cocoon raiser to the girl who winds the silk on spindles in a dingy, dirty, mud-wall house with earthen floor and grimy furniture.

As most of the silk cocoons produced in China are produced by the small farmer on his little patch of ground in the manner taught him by tradition, so most of the Chinese silk is spun and woven by Chinese in their homes. The silk guild people either hire silk weavers to work at home or buy the product of those who work independently. One may go along almost any street of importance in Hangchau and see a silk weaver at work in his home, but negotiations for the purchase of his product will be met with a reference to some silk dealer in the city for whom the weaving is being done. Possibly a purchase can be made, but it will be at prices corresponding with those of the dealers. Unlike most other articles bought and sold in China, silk has a fixed price, and when a silk dealer in Hangchau gives a buyer a price on his goods that price is generally his only price.

MULBERRY GROVES.

Central China is famous for the quality of its mulberry trees. The climate is favorable to their growth, and while the trees can hardly be said to be cared for according to the best doctrines of horticultural science, they are well cared for, compared with other trees and plants. Most mulberry groves are very small—merely a few trees planted on the dikes separating rice fields or surrounding the small ponds on Chinese farms used for flooding rice fields. Now and then there will

be a grove of 5 or 6 English acres, but the large number of trees grow in small bunches and are cared for faithfully. They are propagated by sprouts, and are fertilized in the manner common to all Chinese farming, by manures and by muck from the canal and lake beds, and the earth is stirred up around them regularly. In the fall just before frost they are stripped of their leaves, "that they may have just that much longer rest in the short winter." They seem to be relatively free from disease, although I have seen whole groves practically stripped of their leaves in September by insect enemies. Many of the small groves are utilized for the growth of vegetables and even cotton, but with the constant fertilization it is doubtful if the trees are held back by this course.

The authorities in charge of the sericultural schools in China, especially the one in Hangchau, which has taken the lead in the movement for the improvement of China's silk products, are making a special effort to improve the quality of mulberry leaves for the silkworms of the country, and at the same time to increase the quantity of leaves produced. At present it can not be said that mulberry tree culture of China is scientific or that it is not scientific. The Chinese people have been growing mulberry trees for silkworms for many centuries, and for centuries they had the lead in the silk business of the world. During all these years they have acquired more or less lore of a more or less profitable character, and their tree growing is now conducted according to this experience. The average silk farmer will raise his mulberry trees in certain ways, with certain trimmings at certain times of the year; will apply his fertilizers in certain ways at certain times, and will follow rules and customs of many kinds, like that of denuding the trees of leaves just before frost comes in the autumn. But the real value of his acts is unknown to him and the result is that often he injures his trees by treatment which under certain conditions would have been beneficial. This adherence to custom may be an improvement over a policy of no attention to the trees, but it is not much of an improvement, and the more thoroughly acquainted I become with the Chinese methods of handling their mulberry trees the less I think of them.

When a mulberry orchard or grove is in prime condition the Chinese say that it ought to produce 10 piculs (1,333 pounds) to a mow (one-sixth of an acre). The average orchard in this province now produces from 5 to 7 piculs (666 to 933 pounds). This falling off is due altogether to improper management of the groves, and would not occur if efficient horticultural methods were in use. Under the present methods there are few, if any, means employed to rid the trees of injurious insects, or to prevent or cure diseases due to fungi. The Chinese understand the art of grafting their mulberry trees to a certain extent, and appreciate the need of good stock. It is the custom

when trees in a district get in very bad shape for some officials to acquire merit by furnishing new mulberry tree stock to the people free or at a nominal charge. Efforts have been made to secure good mulberry tree stock from other countries, and in a measure these efforts have been successful. But without scientific knowledge of how to protect the stock after it has been introduced, there is little profit in the undertaking.

THE WORKERS.

The workers in silk in China as a rule are not an educated class. What they know of silk they have learned by word of mouth, and this has been the case for generations. They consist almost altogether of small farmers and small shop people, whose families divide with them the work of producing the cocoons and of handling the silk in all its stages. A farmer who produces 200 pounds of cocoons in a season is doing business on a rather large scale. The largest number of looms I know of in one establishment in Hangchau is five, and that establishment is supposedly doing business on a modern basis. As a class, the silk operatives are certainly intelligent, tractable, reliable—perhaps above the average of Chinese workmen in these respects, and the average of the Chinese workmen is good. They perform their work faithfully and well; they are doing the work their fathers did, and so long as they can prosper in the most modest way they are generally satisfied. When the crop of cocoons is turned in the men, women, and children who have been caring for it give their attention to other work, the women to working over tattered garments for the winter, the men to crops of winter cabbage or the like, on their little patches of ground. Possibly the men may secure work of one sort or another, but in general the people engaged in raising silkworms are the owners or cultivators of small farms near the village or city in which they live, and the silk industry is incident to their farming.

GOVERNMENT AID AND SCHOOLS OF SERICULTURE.

Whatever is done for the silk business in China, as a rule, is done by the silk guild. The Government has refused many times to interfere with the business in any way, and efforts made a few years ago to secure the introduction of more modern methods in the production of silk in China, so that trade in Chinese silks by foreigners could be maintained against Japanese silks manufactured in accordance with more modern methods, were met by the statement at Peking that the Chinese silk merchants would attend to such matters. At the same time, the Government has of late been giving countenance and help of different kinds to schools established for the instruction of the Chinese in better methods of sericulture. Indeed, a commencement in this line was made some eight years ago, when Governor Rin, of this province, appreciating the cause of the decline in Chinese silk production

and of the constantly narrowing markets, established a sericultural experiment station under the title "Chekiang Sericultural College." The institution was established on an island in West Lake, Hangchau, reached by a causeway from the mainland. It was given buildings unusually substantial for China, and arrangements were made for the instruction of the pupils by Japanese silk experts. Inasmuch as most of the work in silk in China is done by small concerns or by farmers, the instruction has been in the past, and is at the present time, in work with native appliances.

At present this college has 80 graduates, 13 students being enrolled there at the present time. The instruction covers a fair course relating to the habits, diseases, and varieties of the silkworm, the methods of handling and preserving the worms and the cocoons, the different steps in the process of handling the silk, the structure and points involved in different native machines—in short, the course is planned to cover the silk business in all its forms. From this beginning in Hangchau there has started a crusade for better methods in silk production. Governor Chang, of Hupeh province, established a second school at Hankau, in that province, several years ago, and the graduates of the Hangchau and Hankau schools are scattered over all the silk-producing provinces, teaching the natives how to better their product.

It is unfortunate for the future of Chinese silk industry, however, that the standard of instruction is not being maintained. When the schools were first established Japanese experts were engaged as teachers. Mr. J. Maeshima, of Kioto, from whom I have received much of the information contained in this report, was the principal in charge of the Hangchau College for a number of years. Mr. Maeshima resigned, a difference of opinion having arisen between him and the authorities supporting the school over a matter of management; but there is reason to believe that the Chinese officials were following in this the policy they have adopted with respect to almost everything else—China for the Chinese—and that they planned to use Chinese instructors just as soon as they felt themselves in a position to do so. The Chinese disposition to run in a rut, however, has already manifested itself, and there is little reason to expect progress in these schools, although the work they are doing is leading to considerable improvement in the standard of silk production in the provinces concerned. The work now done seems to be considerably better than what has been done in the past, but it is not up to the standard in other counties.

NEED OF NEW METHODS.

The loss that China suffers every year because of a lack of scientific knowledge of how to protect and manipulate cocoons, how to grow and protect mulberry trees, and how to handle and dispose of the

cocoon crop after it has been raised, is great beyond belief. There is scarcely more than one-half the quantity of mulberry leaves grown upon the acreage devoted to mulberry groves that there ought to be. By the failure to so handle the silkworms that they give their best product in the largest possible volume another great loss is caused, and another is brought about by imperfect handling of the cocoon in reeling, China getting from its cocoons not more than 6 or 7 per cent of raw silk as a good crop.

All silk experts agree that Chinese silk interests demand an entire revolution in methods of production. There seems to be no question that if the methods obtaining in China for many centuries are to be retained, the silk production of the nation will decline, while, on the other hand, the adoption of modern methods of handling the cocoons and disposing of the product of the worm will result in an immense development of the silk business in China, for reasons which readily appeal to silk producers elsewhere. The cheapness of labor and favorable climate are perhaps the strongest elements in the silk situation of China. They are certainly very powerful elements, but so long as the greater portion of Chinese silk production comes from reeling machines and looms of rough, rude, and apparently inefficient sorts it is difficult to bring oneself to expect that it will amount to much in competition with the science, inventiveness, and wonderful facilities of the silk-producing nations of the West.

CHINESE SILK MACHINES.

Rough as have been the machines of Chinese silk workers in the past, I was really surprised at the crudeness of the machines used in the college here—machines which may reasonably be taken as representing the best methods employed in the production of most of the silk of China. These machines are of native manufacture. The operator sits facing a reel which he turns, together with small spindles for twisting the threads, by foot power. On his left is a small charcoal or wood furnace with a Chinese boiling pan upon it, to which there is a wooden cover. In front of him is another boiling pan. The cocoons are placed in the covered pan and boiled or steamed the required period, and then cocoons, hot water and all, are emptied into the pan in front of the operator. In this pan they are stirred about and manipulated with a rough comb made of bamboo, about 7 inches long, and as loose thread ends are gathered they are fed into an eye in a small brass rod projecting over the pan. Thence the thread leads to two small spindles, oval in shape, so arranged that the thread is twisted as it passes over them; thence the thread of raw silk passes to the reel, which is whirled around over a charcoal fire in an earthen vessel placed immediately under it. Operators, of course,

soon become very skillful in their manipulation of the machine and they produce a thread of raw silk which is far more uniform and satisfactory in quality than might reasonably be expected of the machine. In the school the students are taught the use of a Japanese reeling machine, which is an improvement over the Chinese machine, though similar in construction. The cocoons are heated in a Chinese boiler over a charcoal fire, are manipulated in much the same manner, pass through glass eyelets and over the head of the operator to the reel, which is behind him. Apparently the Chinese operator with his old machine to which he is accustomed does as good work as he does with the new machine.

The looms used by weavers are much on the same order. The simple loom used for work in one color and plain goods is the commonest, but work in several colors producing fancy goods requires a very large and elaborate machine, which is operated by a weaver and a boy who sits on top of it to manipulate ropes and help control the pattern. The product is certainly beautiful, but it is obtained at an expenditure of labor impossible in any other country. Apparently there is no reason why more modern machinery could not be introduced except that its advent would bring about serious resistance on the part of the silk workers. Their theory is that improved machinery will throw people out of employment, and they are prepared to insist upon a continuation of present machinery and methods as representing their livelihood.

The same may be said of the dyeing of silks, and, indeed, of every stage of their manufacture. The policy of the Government in refusing to bring about any change in the methods of silk culture or manufacture which did not come from the silk people themselves is merely in keeping with its policy of avoiding trouble of any sort with its own people, even for their own good. This whole matter of instruction and improvement, of betterment in the growth of the mulberry trees, in the handling of the silkworm, in its protection from diseases, in the manner of handling the cocoons and reeling the silk, in the manner of dyeing, weaving, and selling—in short, this matter of progress is the crux of the silk situation in China, present and future. Whatever may be the splendid past of the silk business here compared with that business elsewhere, whatever may have been the field the Chinese silk manufacturers once had, it is safe to say that there must be an immediate revolution in Chinese methods or the decline in exports of Chinese silk which has been in progress for some time will be permanent. For years silk has been China's chief means of paying its foreign debts, tea coming second. The trade in both tea and silk has declined because of failure to keep up with other countries in methods of production and distribution.

SILKWORM DISEASES.

Unquestionably the production of silk in China at the present time is far below what it ought to be for the number of worms hatched and the amount of feed grown. There are leaks in the business all along the line, but probably diseases of the silkworm represent one of the most costly drains upon the industry. There are many such diseases, among them glugea, bombicio, la flacherio, botoritis, bassianu, together with the damaging ugimia soucariel rondanie. There is no special precaution taken to avoid these diseases or their results, and probably the average worker in cocoons knows nothing of them; he knows only that his cocoons are not what they ought to be.

SILK PRODUCTION.

It is impossible to give accurate figures for the production of cocoons in any part of China or the average per operative, because of the nature of the industry in this country and the fact that there is no Government supervision and no returns to any authority. From his observation and experience in connection with the experiment college here, however, Mr. J. Maeshima estimates that the average quantity of raw silk reeled from the cocoons raised in Chekiang Province is about 4,000,000 catties (5,333,333 pounds) as a good crop, and the quantity of cocoons produced by these worms is from 85,000,000 to 93,000,000 pounds as a good crop. There is no question that if proper attention were paid to the diseases of the silkworms both the total production of cocoons and the proportionate production of raw silk could be immensely increased. Mr. Maeshima estimates that in this province the loss due to evils which could be readily avoided amounts to 30 per cent. The highest product of raw silk in the province is said to run about 7 per cent, by weight, of the cocoons used. If the weather is bad it runs as low as 2 per cent. The average is said to be about 4 per cent.

COST OF SILK PRODUCTION—NUMBER EMPLOYED—HOURS, WAGES.

It is almost impossible to get at the cost of silk production in China. It is first of all to be realized in making up the estimates for this country that the vast mass of silk produced comes from Chinese homes where all members of the family take part in the work. While the males of the household are looking after a rice crop the women will look after silkworms. The men will gather the leaves and the women will feed them, but the family is not thus engaged all the year. Almost every family in the country does some work in silk. One authority estimates for me that in Chekiang Province, with a population of 20,000,000, there are 900,000 houses in which some work in the raising

of silkworms is done. Probably in this province there are 5,000,000 people more or less engaged in the work.

It is difficult to get any intelligent idea of the division of duties. Little or nothing is done in the way of scientific examination of the moth, little discrimination is exercised in the care of the seed, and there is but a general method of caring for the cocoons. The whole family does it all. Probably it may be said that in a family which produces from 100 to 140 pounds of cocoons the careful attention of two persons for forty days is devoted to the work. The first of these persons will get $6 or $7 Mexican ($2.75 to $3.10 gold) and the second $4 or $5 Mexican ($1.80 to $2.25 gold). The return is represented by the production rather than by any wage scale, even where the cocoons are raised for some one else.

As there is no way of dividing the labor in the home, there is likewise no way of measuring working hours. The family works early and late, but often makes up for its length of service by slothfulness in the performance. In the actual feeding season the family will work twenty hours a day—night and day must they keep at their task. For reasons similar to those preventing accurate returns for the working day, it is difficult to measure the number of days these people are employed in a year. This depends altogether upon circumstances. There may be four or five crops of silkworms in a year, but generally, both because of other labor and because of the drain on the mulberry trees, there are only three. The spring crop is produced ordinarily in from twenty-eight to thirty days, depending upon the temperature; the summer crop comes in from twenty to twenty-five days, and the autumn crop in from twenty-five to twenty-eight days. Counting the handling of the seed and other duties connected with the work, the average probably is sixty days for the first crop, thirty for the second, and thirty-five for the third. Then there is considerable work done in raising cocoons in the houses later, the best for raw-silk reeling and the mass of poor cocoons for waste silk and silk cotton.

About 60 per cent of the cost of producing silk in the ordinary Chinese way goes for the mulberry leaves, 30 per cent for labor, and 10 per cent for general expenses.

WORK IN THE FILATURES.

Figures relating to the silk produced in the few modern steam filatures which have been introduced in China are more easily had than those relating to silk produced by the natives, but they are by no means complete and it is impossible to reason from figures obtained in one place as to conditions in other places. In general, however, conditions and prices are about the same all over China.

There are three grades or chops of silk produced in this part of China. On the basis of 1,000 taels a picul ($700 gold for 133

pounds) for the first grade, the two others will be valued at about $686 and $672 gold per picul. In the filatures the best operators receive 50 cents Mexican per day (22½ cents gold). The best reeler will reel perhaps 14 Chinese ounces (18½ American ounces) a day. The general run of reelers, however, will turn out from 11 to 14 American ounces, and for this will receive from 13 to 18 cents gold per day as high wages. It is doubtful if the average will be over 13 American ounces, with an average pay of 13 cents. There are Chinese children employed in the filature who are paid 4 or 5 cents gold per day. It is probable that an estimate of a cent gold per American ounce of silk is not far from the pay for reeling. As a rule there is no difference between the pay of men and women for equal work. Hours of labor are fixed by custom at about ten, but it is to be considered in discussing Chinese labor matters that the Chinese do not work as steadily as men of most other nations, though they work longer. Statements as to the number of days these workmen in filatures work must of necessity be very indefinite. The same conditions which control work in Chinese homes control very largely work in the factories. Probably sixty days a year for a filature will be a fair estimate. Fuel is rather costly from the Chinese standpoint, wood bringing about $3.15 gold for each ten tan (1,330 pounds), and coal costing about $6 gold per ton and being of rather inferior quality. Considerable artificial heat is used in the filatures, which, generally speaking, are rather shabby in appearance and not very substantially constructed. The best of them are probably several years behind Europe and the United States in fittings—indeed there has been little attention paid to them since they were started. The silk trade of China has been languishing. The men back of the filature adventures are of the sort who are not disposed to risk many expenditures for future possibilities, but demand present and certain returns for their investments.

DYEING.

Practically all the silks produced in this part of China are dyed, either before or after weaving, in shops kept for that purpose. Silk dyeing is a separate business or profession in China. For silk of average weight and width it costs 650 cash (30 cents gold) to dye a bolt of from 43 to 44 feet, and the cost when the silk is dyed before weaving is proportionately about the same. Most of the silk manufactured into the better grades of cloth is dyed before weaving.

COST OF FINISHED SILK.

It is impossible to ascertain the exact cost of any particular variety of silk in this part of China unless the history of each particular piece is followed and prices carefully watched. Almost everything is done

on the basis of averages. The silk guild controls prices to a great extent, and they are often far higher than they ought to be and at other times lower than might reasonably be expected. When there is a demand for Chinese silks abroad the prices in China are very high, higher generally than the export demand justifies. When trade abroad languishes there is generally a corresponding drop in prices in China, but it by no means follows as a matter of course. The guild may keep prices up artificially for some time in the hope of effecting foreign sales at high rates. Here in Hangchau at the present time Ning Chou silk, cloth that has been dyed before weaving, 24 inches wide and heavy, will bring for the first grade $1.20 gold per yard, second grade $1 per yard. Fang Chou, reeled pongee undyed, sells for about 22 cents gold per American ounce. Hu Chou, a soft boiled silk, undyed, sells for about 30 cents gold per American ounce. Last year there were shipped out of Hangchau 2,349 piculs (3,129,217 pounds) of silk of all kinds. It was valued, according to the customs declarations, at $1,694,186, which makes the average value $5.41 gold per pound. This includes shipments of waste silk. It is probable that the retail values above given allow for about 10 per cent profit.

The silk merchants as a rule constitute one of the wealthiest and most influential classes of the Chinese population. One reason for this is in the fact that it takes considerable capital to handle silk products, and another is in the powerful nature of the silk guild organization. The guild is more than a trust. It assumes and exercises over its members a sway often not confined to business matters, and it controls its own membership and practically dictates who may and may not deal in silk.

SILK-PRODUCING POSSIBILITIES OF CHINA.

The silk-producing power of China is altogether a matter of conjecture. Since the T'ai P'ing rebellion, when the entire nation was prostrated, the purchasing power of the Chinese people has been constantly on the increase, and one of the first results of this is an increase in the amount of silk consumed in China. One of the canons of Chinese aristocracy and luxury is to dress in silk when you can afford it, and as China grows wealthy the amount of silk it will consume is far beyond what it has been using for many years. The production of silk in China accordingly is likely to increase greatly before long, in spite of the fact that the silk industry has been somewhat languishing for some time because of decreased exports.

Silk is produced in every part of China south of the thirty-fifth degree of latitude. The best silk comes from Chekiang, Kiangsi, Hupeh, and Szechuan provinces, a belt running across the country between the twenty-eighth and thirty-second degrees of latitude. Up

to a few years ago the silk called Tsatlc, from Hupeh Province, was said to be the finest in the world. A very small advance in the return to the silkworm farmer for his cocoons will result in an immense increase in the silk production of China. Nor will it take long for the business to be enlarged. The planting of mulberry groves can proceed very rapidly and the trees be brought to good size in a short time, where the producer has few trees to attend to and both a favorable climate and intensive methods of cultivation to force the plants. The wide diffusion of present methods of production has distributed knowledge of silk production very generally among the people. China is already prepared with an immense army of silk producers for any possible increase in the demand for Chinese silk products. The country is merely waiting for the world to beckon for more silk to increase its production of silk indefinitely.

Of course the world will welcome China's silks when the Chinese can furnish better silks for less money. This can be done only by a revolution in Chinese methods, and this revolution probably can not come without Government aid. At present the Government is doing nothing. It has done nothing in the way of establishing regular markets for cocoons, of spreading knowledge of improved methods of culture and manufacture, or protecting the silk workers in any way. One or two governors at times have made arrangements for the distribution of improved varieties of mulberry tree sprouts, but this has been often at the expense of the peasant farmer, who is the real silk producer of China. One or two governors have issued proclamations encouraging their people to raise more trees and produce more silk. But proclamations and encouragement do not change economic conditions. China seems to be prospering in almost every line but in tea and silk, in both of which it once was supreme. Only progressive methods will save either of these industries now, and the disposition of the authorities to stop the march of progress by turning to inefficient Chinese or other Asiatic instruction is not encouraging.

GEORGE E. ANDERSON, *Consul.*

HANGCHAU, CHINA, *December 27, 1904.*

JAPAN.

(From United States Consul-General Bellows, Yokohama, Japan.)

RAISING COCOONS.

Distribution of expense.—A little less than half the expense of raising silk cocoons is included in the cost of the mulberry leaves, but if we subtract the value of the mulberry shoots which may be resold, the net cost of the leaves is shown to be a trifle over three-sevenths of the whole outlay. The remainder is divided into two

nearly equal parts, of which one pays the wages and board of the workers, and the other covers the expenditure for eggs, charcoal, tallow, oil, bobbins, rent for rearing room and utensils, interest, and other miscellaneous expenses.

Number engaged.—The rearing of silkworms is usually engaged in as an auxiliary industry by farmers, whose wives and children assist in caring for the insects, and reports on the subject do not state the number of persons thus employed, but instead give the number of families, which, in 1901, was 475,819. The average production per family was 5 bushels of cocoons. As a result of the industry being carried on in the homes, there is no fixed division of labor, and it is not possible to give the number engaged in the production of the silk moth, in microscopic inspection of the moth, in hatching the eggs, in gathering the mulberry leaves, or in feeding the silkworms, but 18,138 families were engaged in manufacturing egg cards.

Wages and output.—Women employed to care for silkworms receive 10 cents a day and board, and men engaged in the same work receive 15 cents a day and board. The employment of children for wages is not mentioned in the published reports. There are three cocoon crops per year, and each requires from thirty to forty days' work. The conditions of the work are too variable to permit of any statement regarding the average number of hours of labor per day.

The average number of cocoons attended by each raiser and the product is as follows:

Crop.	Cards of worms.[a]	Cocoons.	Raw silk.
	Number.	*Bushels.*	*Pounds.*
Spring crop	1.7	5,960	10,000
Summer crop	1.2	3,215	5,400
Autumn crop	1.5	4,059	6,800

[a] Average number of worms to a card, 40,000.

Intellectual condition of operatives.—I can find no data on which to base replies to the questions concerning the intellectual condition of the operatives and other occupations of silk growers, except so far as they are answered by the statement already made, that the operatives are usually farmers.

Government aid.—The Government does not aid in establishing markets for the purchase and sale of cocoons, but in 1884 it opened a sericultural laboratory in which all sorts of investigations connected with sericulture were made, and where young men sent by sericulturists from all parts of the country received instruction. In 1896 this institution was changed into a sericultural school, and in 1899 another similar school was established in another part of the country. These schools have charge of the following matters: Instruction in sericulture, experiments and investigations in sericulture, lectures on sericulture, distribution of silkworm eggs, and answering of inquiries.

Two courses of study are provided; one, extending over two years, gives instruction in the scientific principles and practices of sericulture, and the other, of only five months, teaches the elementary principles of the industry and gives attention to the practical side of the work. In 1901 a special course was added for the benefit of experienced sericulturists who wish to study the diseases of silkworms. There are also, scattered throughout the provinces, 39 public and 86 private schools which give instruction in practical sericulture. As a result of work done in the sericultural laboratory, Pasteur's grainage cellular method for fighting the silkworm epidemic was remodeled and improved so as to prove an effective means of abating this evil. Regulations, enforced by the Government, for the examination of silkworm eggs, have resulted in raising the standard of quality of eggs and hindering the spread of epidemics.

A law promulgated in March, 1900, provided for the organization of credit guilds for the protection of farmers and small manufacturers. These guilds receive assistance from the Government, besides being exempt from the payment of income and business taxes. There are 77 raw silk guilds, 23 silkworm-egg guilds, and two sericultural guilds. Their object is to advance the industry they represent, and to maintain a high standard of excellence in the exports of the commodities with which they are concerned.

Mulberry tree growing.—The mulberry trees receive special attention, their treatment varying according to the climatic conditions of the various localities. In 1901 the number of acres planted in mulberry trees was 559,095. Besides this the tree is often planted to form fences, the borders of farms, or hedges about houses, and it is estimated that more than one-fourth the supply of leaves used for feeding silkworms is furnished by these hedges.

SILK REELING.

Methods, number of operatives, product, and cost.—Two methods of reeling are in use, machine reeling and frame reeling, the former being employed only in factories, while the latter is used both in factories and in the homes of farmers, where the reeling of silk often constitutes a by-industry. Counting as factories all establishments that employ ten or more operatives, there were, in 1900, 2,072 machine-reeling factories, employing 122,116 pans, and 597 frame-reeling factories, employing 55,022 pans. In that year 8,258,492 pounds of silk were turned out by machine reeling, and 6,372,766 pounds by frame reeling. As the average produce per pan was 64 pounds by machine and 36 pounds by frame, it is evident that about 122,000 pans were used in establishments employing frame reeling, but having less than ten operatives each—that is to say, in the homes of farmers. The cost of producing 100 pounds of raw silk by machine reeling was at that time $58.26, and by frame reeling $48.30. Owing to a general rise in

prices it is probably somewhat greater now. The following statements show the items of expense and the receipts from each method, as computed for that date, on the basis of 100 kin (133⅓ pounds):

Expenditures for silk reeling in Japan, per 133⅓ pounds.

Expenses.	Machine reeling.	Frame reeling.
Cost of cocoons (79.4 bushels)	$318.72	$318.72
Girls' wages	20.42	28.39
Girls' board	13.80	
Officers' and employees' salaries	7.35	5.98
Fuel	8.60	5.98
Miscellaneous expenses	4.08	2.59
Insurance, commission, draft discount	6.63	6.76
Interest on invested capital	19.92	10.21
Interest on working capital for six months, at 10 per cent per annum	19.42	18.42
Total	418.94	396.65

Receipts from silk reeling in Japan, per 133⅓ pounds.

Receipts.	Machine reeling.	Frame reeling.
Proceeds from sale of raw silk	$423.30	$390.93
Proceeds from sale of by-products	9.96	8.47
Other incidental yield	.50	.50
Total	433.76	399.90
Net proceeds	14.82	3.25

Number of filatures.—At the end of 1900 there were 2,129 silk-reeling factories run by motors, in which were employed 6,252 male operatives and 103,084 female operatives; 429 factories not run by motors employed 774 male and 8,694 female operatives.

Government filature and silk-conditioning houses.—The Tomioka filature, established by the Government, led the way in introducing the factory system in silk reeling, and has been utilized as a kind of experimental establishment to determine the best method of preserving cocoons and the systems of reeling best adapted to the conditions in this country. In 1903 a course of study was added in one of the Government sericulture schools to provide training in the manufacture of silk. In 1894 the Government established two silk-conditioning houses, of which the one at Yokohama is still in operation. It undertakes to determine the gross weight of silk by examining it when packed; the net weight of silk by taking into account the quantity of moisture contained in it; the number of breakages by rereeling the silk and the rate of such breakages per reel; the size of filaments and their relative uniformity; the relative number of knots in the filaments; the strength and tenacity of the filaments; the relative quantities of gummy substances present in the filaments, and the relative decrease in the quantity by softening.

E. C. BELLOWS, *Consul-General.*

YOKOHAMA, JAPAN, *May 31, 1904.*

JAPANESE OFFICIAL REPORT.

(From United States Minister Griscom, Tokyo, Japan.)

In compliance with Consul-General Bellows's letter to this legation, of February 25, 1904, I inclose herewith a translation of a report upon sericulture in Japan, prepared by the Tokyo Training School for Sericulture, to which the matter was finally referred after correspondence with the department of agriculture and commerce.

LLOYD C. GRISCOM, *Minister.*

TOKYO, JAPAN, *October 31, 1904.*

(From the Tokyo Training School for Sericulture.)

Concerning cocoon raising and silk reeling, about which you wrote to us under date of April 9, 1904, we have received the following report from Mr. Yokota Chotaro and Mr. Mitani Toru, the officials in charge of the said work, whom we ordered to investigate the matter. But as the sphere of your inquiry is very wide and there are some points in your questions which we do not clearly understand, we are sorry to state that we are not in a position to make a full reply. Therefore if there are further necessary points which are left unanswered in these papers, we shall be very glad to give you the best possible assistance, provided you send some one who is capable of investigating such points. The statistics cover the year 1902.

RAISING THE COCOONS.

Distribution of expense.—Assuming a commercial value of 25 cents per pound of cocoons, the distribution of the value is as follows: To the owner of mulberry orchards, 14 cents; expenses for eggs and other sundries, 2½ cents; to the laborer, 7 cents. The remainder will be the profit of a raiser.

Number of operatives.—The number of operatives engaged in raising cocoons in Japan is as follows: Microscopic inspectors of moths, about 1,000 (but the number varies every year). Silkworm and egg raisers: Univoltini raisers, 13,745; bivoltini raisers, 8,510; multivoltini raisers, 293 (the practical number of the raisers of various kinds taken together is 18,133). Hatching and feeding are not separate work in Japan, and a raiser of silkworms also does the work of a mulberry-leaf picker. There are 1,434,837 raisers of spring cocoons; 566,218 raisers of summer cocoons, and 547,173 raisers of autumn cocoons.

Wages and hours of labor.—The wages for women and children vary according to districts, but average wages for women employed as operatives in cocoon raising throughout Japan are 20 sen (10 cents) per day; children get about 5 cents. During the rearing season of the silkworms no holidays are given. Daily working hours also vary, but generally speaking women work from ten to twelve hours; children from six to eight hours. The average number of days the raisers employ helpers in a year is the same as the number of days occupied in raising cocoons.

Cocoon crops.—The number of cocoon crops in Japan is four, but the majority of raisers are engaged in this work once or twice, and a

very few three or four times. The number of days occupied in raising cocoons is about as follows: Spring cocoons, forty days; summer cocoons, twenty-five to thirty days; autumn cocoons, twenty-five days.

Silkworm crops.—The number of silkworms raised at various seasons is as follows, given in cards (average number of worms for a card, 40,000): Spring cocoons, 2,442,388; summer cocoons, 699,323; autumn cocoons, 743,940.

Product of cocoons and thread.—The quantity of cocoons produced by the above number of worms is as follows, in a koku of 38 kilograms (83.6 pounds) each: Spring cocoons, 1,774,936; summer cocoons, 359,722; autumn cocoons, 414,516.

The quantity of silk thread produced from the foregoing quantity of cocoons is as follows, in kanmonme of 3.8 kilograms (8.36 pounds) each: Raw silk, 1,792,928; "kuzu," or waste, 765,250.

Intelligence of the cocoon raisers.—Cocoon raising was formerly a bywork of farmers, but at present there are not a few who undertake it as their sole occupation, and as these raisers mostly belong to the class in easy conditions, they can be said to average higher in intelligence than the ordinary farmers, and they are looked up to and have credit among their neighbors. There was a time when some people looked upon the business as a speculative one, irregular in its profit, but now they look upon it as a sober, regular, and profitable occupation.

Other occupations of silkworm raisers.—The women engaged in sericulture generally have the following work and receive the following wages per diem when they are not engaged in silk growing: Agriculture, 9 cents; silk reeling, 10 cents; weaving, 9½ cents. Their working days in these occupations are irregular; therefore we can not here state their exact income per year.

Government aid.—The Government does not give any direct aid in establishing markets for the purchase and sale of cocoons or in other similar ways. However, on the railways under Government control special facilities are given for the transportation of cocoons, such as running special trains, etc.

Diseases of the silkworm.—As a precaution against diseases, the Government has published and enforced rules for inspecting eggs. These rules have been applied to egg raisers, and officials appointed by the Government superintend the rearing of the worms and examine the eggs. If these are not up to the standard they are forbidden to be bought or sold. Again, the Government encourages the disinfection of the rearing rooms and rearing apparatus; but for this, agricultural associations in various cities, prefectures, counties, and villages are responsible.

Education of the breeders.—The provisions made by the Government for the education of breeders are as follows: (1) Training schools for sericulture (two in number); (2) the college of agriculture in the Imperial University; (3) the high schools for agriculture and forestry. Of these, the first is under the direct control of the department of agriculture and commerce, and is intended chiefly for the sons and brothers of the sericulturists. Students are there taught theories and practice of the rearing of silkworms, reeling raw silk, and making experiments on the same. The second and third teach the subject as a special course of study. Besides these, in smaller agricultural schools or training schools for sericulture, of which there are about 100, founded by towns, prefectures, or villages, students are taught the

subject as a special course of study, and there are several private establishments of the same nature.

Mulberry-tree growing.—Mulberry trees are all planted and specially cultivated in orchards, and only in mountainous districts or in out-of-the-way places one sometimes notices that the raisers use mulberry leaves grown without special care. To the following, special attention must be paid in this cultivation in Japan: Frost and winter killing (local, but damage is great); dwarf trouble (not local, but damage is small); damage from tilz and injurious insects (not local, but damage is slight).

SILK REELING.

Grades of cocoons and quantity of silk reeled.—Cocoons are graded in Japan as follows: First class, best quality; second class, middling quality; third class, bad quality; fourth class, worst quality (such as soiled cocoons, dead-worm cocoons, and thin-skinned cocoons).

The average quantity of raw silk reeled by a female operative per day is as follows, in monme of 58¾ grains each: First-class cocoons, 100; second-class cocoons, 80; third-class cocoons, 60.

Wages and hours.—The average daily wages of the first-class female operatives is 50 sen (25 cents), and of the ordinary class of female operatives 15 sen (7½ cents). Superintendents earn from 30 to 100 yen ($15 to $50) per month, and overseers from 15 to 30 yen ($7.50 to $15) per month. The usual price paid per pound for reeling is 60 sen (30 cents). Male operatives and children are not employed in the same works as female operatives in silk-reeling establishments, but they are employed in other works. The monthly pay for male operatives and children is as follows: Male operatives and dressers, 15 to 20 yen ($7.50 to $10); children, 3 to 4 yen ($1.50 to $2).

The hours of labor are not fixed by law or custom, and vary according to the seasons. Operatives generally work from twelve to fifteen hours per day. The number of days on which the workers are employed varies according to districts, but is about two hundred and fifty days per annum. Hours of labor in other occupations taken up by silk-reeling operatives vary greatly, and the wages for such can not be ascertained.

Education of operatives and improvements in factories.—No special care has been taken for the education of operatives. Concerning the construction of silk filatures and their internal arrangements, no improvements have been made of late to which we could direct special attention.

NAGASAKI.

(From United States Consul Harris, Nagasaki, Japan.)

SILK INDUSTRY IN THE NAGASAKI DISTRICT.

In this district, which consists of the island of Kiusiu and that part of the island of Hondu which lies in Yamaguchi Ken, the sericulture industry is carried on to a very limited extent in connection with other agricultural pursuits, and while it provides garments for the people producing the cocoons, the income derived from it otherwise is not considered of much moment. From a translation of that part of the report of the agricultural department of the Japanese Government for

1901 relating to the subject under consideration, I find that in that year 72,151 families were engaged in the industry, 36,893 acres were in mulberry trees, of which those on 6,483 acres grew at random and received no care or attention, while 30,410 acres received the best of treatment and cultivation; that 474,330 bushels of cocoons were raised, valued at $1,392,178, and that 527,833 pounds of raw silk were produced, valued at $1,520,975, that amount being 3.51 per cent of the total value of the raw silk produced in Japan.

RAISING COCOONS.

Distribution of cost.—The assumed value of cocoons of 25 cents per pound, ready for the reeler, is distributed about as follows: To the landowner for his trees, 15 cents; for seed, paper, and other incidental expenses, 2½ cents; for labor, 7½ cents.

Number of operatives.—I am unable to even approximate the number of persons engaged in the raising of cocoons. In the production of silk moths there are many officials employed as inspectors of eggs, in microscopic inspection of the moth, and in assorting the seed and taking care of it. One person can care for from half an ounce to 12½ ounces of newly hatched worms, and for the gathering of mulberry leaves 20 persons are required for every half ounce of worms. I am unable to state the number of persons engaged in the feeding of silkworms, but the number of houses in which worms are fed is probably greater than is the number mentioned as being in the industry.

Wages and hours—number of crops.—The daily wage of women engaged in raising cocoons is 10 cents. No children are employed. The number of hours of employment per day is twelve, and the number of days of employment during the year is about one hundred and twenty. There are four cocoon crops—one in the spring, one in the summer, and two in the autumn. The usual number of days for the spring crop is fifty, for the summer crop twenty-two, and for the autumn crop from twenty-eight to thirty.

Individual output.—The average number of worms that one operative can attend to the feeding of is 40,000. The average quantity of cocoons produced by this number of worms is 83⅓ pounds, and the average quantity of raw silk reeled from this quantity of cocoons is 5⅝ pounds, and about 1¼ pounds of waste silk.

Intelligence and character of silk raisers.—As a class, the operatives are intelligent, tractable, and reliable; there are no disturbing agitators among them, and there exists between the employer and employee the best of good will for the success of the business.

Other occupations.—When the crop of cocoons has been turned in the women engage in farming and weaving, their daily wage being from 8½ to 9 cents.

Diseases of the silkworm.—Special precautions against diseases are taken by experienced officials. Eggs are examined by microscope,

and the worms specially selected for the production of eggs are also examined. Silkworm rooms, mattings, and other utensils are frequently disinfected by steam or other method.

Training of silkworm breeders.—To the breeders of silkworms special instructions are given in zoology, botany, natural philosophy, and chemistry by a Government expert attached to the governor's office in each ken, who is generally a graduate from one of the State sericultural training schools at Tokyo or Kioto. The number of graduates from those schools up to 1903 was 1,721. There are also local public and private sericultural training schools throughout the Empire, 30 being in this district—14 public and 16 private—which teach, I am informed, mostly the practical side of the industry.

Mulberry tree growing.—Special attention is given to cultivation and fertilization. Each tree receives the attention needed to produce the best results, except those grown at random in out-of-the-way places, where the cost of care would be much greater than the income received.

SILK REELING.

Individual output, wages, and hours of labor.—The average quantity of silk reeled daily by each operative is about 12½ ounces. The average daily earning capacity of the operative during the first year is 5 cents and that of the most expert reelers 25 cents. The usual wage paid per pound for reeling is 36½ cents. Children are not employed. The men's daily pay is 25 cents; the women's 12½ cents. The compensation of overseers is from $10 to $25 per month. The daily hours of labor are fixed by custom, and the operatives in the silk filatures usually work eleven hours. The average number of days the operatives are employed during the year is one hundred and eighty. When not at work in the filatures the operative is employed in raising worms.

Skilled instruction.—Special care is given to the education of operatives, but it is along the lines of the primitive machinery generally in use.

Fuel.—Artificial heat is necessary, the cost of coal being from $1 to $2 per ton.

Number of filatures and employees.—There were in my district, in 1901, 82 filatures, 55 operated by steam, using 58 engines aggregating 341 horsepower, one operated by water power of 15 horsepower capacity, and 26 operated by hand power. The total number of operatives employed was 3,968, of whom 215 were males and 3,753 females; 214 of the males and 3,329 females were over 14 years of age, 1 male and 424 females being under 14 years. Of apprentices there were 167, 2 males and 165 females.

CHARLES B. HARRIS, *Consul.*

NAGASAKI, JAPAN, *May 10, 1904.*

NOTES.

Harbor Improvement at Mollendo, Peru.—The Peruvian Corporation, a British syndicate, has begun work on the breakwater and artificial basin at Mollendo, a port at which landing and discharging operations have been very difficult. It is said that these works will cost from $364,988 to $486,650. The betterment of the port of Mollendo is probably in view of the recent Chile-Bolivia treaty, which calls for the construction of a railroad from La Paz, the Bolivian seat of government, to the Chilean port of Arica, with preferential rates in favor of Chile, all of which will tend to draw traffic away from the present Bolivian route to the sea.—*A. L. M. Gottschalk, Consul, Callao, Peru, February 28, 1905.*

Spanish Duty on Wheat.—Consul David R. Birch, Malaga, Spain, under date of April 9, 1905, telegraphs as follows: "Wheat duty has been reduced 50 per cent on account of the failure of the crop. Advise sellers American wheat in great demand."

Automobile Exposition at Budapest.—Consul-General Frank D. Chester, Budapest, under date of April 11, 1905, telegraphs as follows: "Automobile exposition opens here May 5. Space still open."

Australian Wool Exports to the United States.—Under date of March 3, 1905, United States Consul-General John P. Bray, Melbourne, Victoria, transmits the following statement showing the exports of Australian wool to the United States during the season of 1904–5:

Port of shipment.	Quantity.	Value.
	Bales.	*Dollars.*
Melbourne	50,561	4,160,799
Sydney	22,209	1,940,591
Brisbane	188	11,702
Adelaide	163	10,164
Total	73,121	6,123,256

American Subsidies to Foreign Shipping.—In his annual report, which will be printed in Commercial Relations for 1904, United States Consul John E. Kehl, of Stettin, Germany, states that 3,485 vessels entered at and 3,438 vessels cleared from that port in 1903, not one of which carried the American flag, and then says:

The sole right of carrying 90 per cent of our exports seems to be deeded over to foreign shipowners, who are thus paid a subsidy in the form of freight charges of $100,000,000 a year. The marine freight paid by the United States, together with passage money paid by American travelers, will reach 50 per cent of the gross earnings of all ocean-going vessels.

International Convention to Consider Industrial Legislation.—United States Consul James C. McNally, Liege, Belgium, under date of March 16, reports that the Belgian Government has been invited by the Swiss Confederation to participate in an international convention to be held at Berne on May 8 next, the object of which is to consider (1) the prohibition of the use of white phosphorus in the manufacture of matches; and (2) legislation against the employment of women at night. The Belgian Government has signified its intention to participate.

Market for Dairy Utensils.—The recent establishment of a butter and cheese exchange at this post, whence it is anticipated large shipments of dairy products will take place, should make Three Rivers a very desirable place in which to sell the latest improvements in suitable utensils. The farmers will be stimulated to adopt the latest improvements in order to give to their products a No. 1 mark. A first-class salesman, knowing the French language, coming into this section with a full exhibit of butter and cheese making machinery and tools, will not only make an immediate opening for his wares, but will also be able to establish a permanent agency, which is very much needed here. Circulars will do no good. The farmers speak French only. Sales should be made among a few of the leaders and the rest will follow.—*James H. Worman, Consul, Three Rivers, Quebec, April 4, 1905.*

Opening for American Motor Boats.—Very few motor boats are in use on this part of the St. Lawrence. There is not a single craft owned in this town of 12,000 inhabitants, with more than 500 well-to-do people, of which one-half could well afford pleasure boats. American manufacturers of the latest improved models would do well to send a man into this section. He would doubtless carry off some very good contracts from Three Rivers, as well as from the wealthy towns

adjoining. There is no use in sending circulars. Only the individual soliciting of a first-class salesman understanding the French language can make headway here.—*James H. Worman, Consul, Three Rivers, Quebec, April 4, 1905.*

Efforts to Extend Belgian Trade.—According to the Belgian press, the King of Belgium has laid before his ministers an original and unique plan for showing to the world what the Kingdom produces. A boat having specially arranged exhibits of the products of Belgium is to be sent out specially equipped under governmental supervision, and carry the Belgian flag. It is to carry guns for salutes, and is to be clothed with special governmental privileges to insure its official reception at calling ports. If the first boat proves that such a system of showing goods is beneficial, a second one will be similarly equipped. The idea is enthusiastically received by the people and the press; and it is thought that such a display will materially enhance the opportunity of Belgian manufacturers to introduce their products into the markets of the world.—*James C. McNally, Consul, Liege, Belgium, March 22, 1905.*

Implements and Machinery for British East Africa.—The customs administration at Mombasa announces that machinery, implements, and apparatus for agricultural, dairy, and poultry-raising purposes will be admitted free of duty into the British colony of East Africa and the Uganda Protectorate. Motors, wagons and carts, pumps, scales, water tanks, grindstones, bags, cordage, mills, harness, etc., are included.—*Richard Guenther, Consul-General, Frankfort, Germany, March 18, 1905.*

Ocean Traffic of German Steamships.—The traffic of the three ocean steamship lines receiving subsidies from the German Government, according to official statistics, for the year 1903, was as follows: The East Asiatic line carried 179,492 tons of merchandise, valued at $56,644,000 and 19,195 passengers; the Australian line carried 134,312 tons of freight, valued at $25,496,000, and 12,730 passengers; the East African line carried 126,117 tons of freight, valued at $15,411,000, and 16,195 passengers. The values of precious metals and bullion carried are not included. The bulk of the merchandise carried outward was German, and the freights on the home trips were in large part destined for Germany. These German steamships touch at many intermediate foreign ports to take or discharge freight and passengers.—*Richard Guenther, Consul-General, Frankfort, Germany, February 27, 1905.*

Currency Measures in Mexico.—It is noteworthy that the decree regarding currency reform makes Mexico's plans in this respect correspond more closely to the method that has been adopted by the United States in the Philippines, by Japan, and by Great Britain in some of her oriental possessions—the so-called "limping standard"—than was indicated in the Limantour message of last November. In that message it was expressly stated that it was deemed unnecessary, for the present at least, to establish a gold reserve for the definite and express purpose of maintaining the new ratio fixed for the Mexican silver dollar by selling drafts on foreign markets in gold, or in other ways. However, the President's decree as now promulgated contains definite provision for such a gold reserve.—*James A. Le Roy, Consul, Durango, Mexico, April 3, 1905.*

Canadian-Mexican Trade.—The Dominion maintains a commercial agent in Mexico, whose sole business is to discover and report trade openings for Canadian products. A movement is now on foot among the manufacturers of Quebec and Ontario provinces to delegate a representative body during the approaching summer to visit Mexico, in order to inquire searchingly into the business conditions of the Republic, and make a thorough canvass for Canadian trade and exchange. A number of firms have signified their intention to establish agencies in Mexico and the larger cities of the Republic as soon as direct steamship service is established, a project which now engages the attention of the Dominion government, and for which a liberal subsidy has been provided.—*James H. Worman, Consul, Three Rivers, Quebec, March 28, 1905.*

National Bank of the Danish West Indies.—In his annual report upon the trade and industries of Denmark for 1904 (which will be published in the forthcoming volume of Commercial Relations), United States Consul Raymond R. Frazier, of Copenhagen, Denmark, gives the following information relative to the establishment of the National Bank of the Danish West Indies:

A new banking institution whose aim is said to be to contribute to the development of the Danish possessions in the West Indies has been established by royal charter during the year. The capital of the bank is 5,000,000 francs ($965,000), of which 25 per cent has been paid in. For the remaining 75 per cent debentures have been issued by the shareholders, the four principal banks of Copenhagen. These debentures, deposited with the Danish ministry of finance, are payable on demand. The bank will begin operations January 1, 1905. Its head office will be at St. Thomas, and two branches will be established in St. Croix. A new currency based upon the gold standard, with the

franc (19.3 cents) as the unit, will be introduced in the Danish West Indies at the same time. This new bank has obtained the sole right to issue bank notes, which will be payable in gold in the Danish West Indies and in Copenhagen at par—72 ore per franc.

Watch Trade of France.—According to a report from the German consul in Paris, cases and works for watches and clocks to the value of $3,863,750 were imported into France from Switzerland and Germany in 1903. The manufacture of French watches, which is chiefly carried on in the department of Doubs, employs over 10,000 workmen. Our American manufacturers of cases and other parts of watches should give attention to this French market, as they surely can compete with the Swiss and Germans.—*Richard Guenther, Consul-General, Frankfort, Germany, March 18, 1905.*

Railroad in Madagascar.—The President of the French Republic promulgated on March 19, 1905, the text of a law authorizing the governor-general of Madagascar to negotiate a loan of not to exceed 15,000,000 francs ($2,895,000), the proceeds of which are to be used exclusively in the construction of a railroad from Tananarivo to the east coast of the island.—*Robert P. Skinner, Consul-General, Marseille, France, March 22, 1905.*

Cotton in Haiti.—Minister Powell, writing from Port au Prince, Haiti, under date of March 23, 1905, says: I have the honor to state that the cotton crop this year will exceed by 25 per cent the crop exported last year, which amounted to about 75,000 bales. It is too early to predict as to the coffee crop, but the present indications are that it will nearly equal, if not surpass, that of 1903, which was considered one of the best coffee crops that the Republic has had.

Electric Tramways in Malta.—A system of electric tramways has just been inaugurated at Malta, with 10 miles of track in use, and soon nearly double that mileage will be worked. The rails came from Pittsburg, Pa., and the motors in use were made at the English branch works of the Westinghouse Company. The cars, which are of the "double-decker" pattern, were manufactured at Manchester, England. The power station is complete in every detail. There are two sets of engines of 365 horsepower each from the establishment of Allen & Son, of Bedford, England. Mr. M. D. Jeffs, of New York, is general traffic manager. About 200 persons are thus far employed. The

road was constructed and is operated by Messrs. Macartney, McElroy & Co., who are regarded here as an American company, although their headquarters are in London, England. From the opening day the road has enjoyed good patronage.—*John H. Grout, Consul, Valetta, Malta, March 20, 1905.*

German Tourist Steamers for the Nile.—The Hamburg-American Line is contemplating building six small passenger steamers for tourist service on the Nile. Estimates have already been called for. A short time ago the Stange Tourist Company, Berlin, was incorporated with the Hamburg Line, and it is the intention of the company to make a determined effort to secure tourist traffic in every part of the world. Thus far the vessels on the Nile have been almost exclusively English, belonging for the most part to Thomas Cook & Co. According to German opinion the competition of the Hamburg Line will have a most salutary effect, in one direction at least, that of reducing the present exorbitant prices demanded by the English steamers.—*Ernest L. Harris, Commercial Agent, Eibenstock, Germany, April 3, 1905.*

Canadian-Cuban-Mexican Steamship Communication.—It is announced here that the differences between the Mexican Government and the Elder-Dempster line between Canada and Mexico are likely to be settled at an early date, and that the Elder-Dempster steamers will be allowed to call at Cuban ports. It is stated that the establishment of the Cuban railway by Sir William Van Horne has resulted in quite a large amount of business between Montreal and Habana, and the Mexican line could handle this trade. The Mexican Government has wired that the minister of foreign affairs has taken up the matter and will announce his decision as soon as possible.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, March 31, 1905.*

Cooperation as a Check on Trusts.—In the Prussian lower house Representative Speck recently urged the Government to establish professorships in the State universities for instruction on the "cooperative system." In reply a member of the Government stated that the subject would receive due consideration.

Many economists and commercial bodies now believe that by the development and promotion of the cooperative system the expansion and monopolistic working of the trusts will be checked. An English journal, in a communication from Manchester, states that the value of goods purchased by the Cooperative Wholesale Society in 1904 was

$99,045,980. This society purchases supplies in all lines for the retail cooperative societies commonly known as "stores" in England. The Cooperative Wholesale Society also carries on some industrial enterprises, all of which did well last year excepting its dairy industries in Ireland, which worked at a loss of $49,585. Its banking department worked very profitably during 1904.—*Richard Guenther, Consul-General, Frankfort, Germany, March 10, 1905.*

Imports of Wheat into Spain.—United States Consul-General Ridgely, of Barcelona, in a report dated April 7, 1905, gives the imports of wheat into Spain in recent years as follows, and says that the imports in 1905 will probably exceed those of 1904:

Quantities of wheat imported into Spain in 1902, 1903, and 1904.

Imported from—	1902.	1903.	1904.
	Tons.	*Tons.*	*Tons.*
United States	201	61	.....
France	39	2	1,238
Roumania	.....	.....	805
Russia	13,970	18,886	34,887
Other countries	2,150	2,388	15,278
Total	16,360	21,337	52,208

Belgian Agriculture.—Belgian agriculture has made considerable progress during the last twenty years. The wheat-growing land, consisting of 316,422 acres in 1903, yielded about 21.3 bushels to the acre. In 1903 the number of horned cattle raised was 1,720,150, an increase of 300,000 over previous years. Assigning an average value of 200 francs ($38.60) a head, the value of these cattle would be 60,000,000 francs ($11,580,000). Notwithstanding this increase, the demand for live stock is greatly in excess of the supply. The cattle exports are insignificant, being in 1904 valued at only 19,000 francs ($3,367); the imports for the same year were valued at 26,720,000 francs ($5,156,960). The production of butter has also materially increased, but the exact figures can not be given, because much of the product did not pass through the larger markets. In 1904 the imports of butter amounted to 4,413,454 kilos (9,709,599 pounds), valued at 12,043,000 francs ($2,324,299); the exports for the same year were 1,939,406 kilos (4,266,693 pounds), valued at 5,349,000 francs ($1,032,357); so that Belgium consumes from abroad butter to the value of 7,000,000 francs ($1,351,000). The imports of eggs in 1904 were valued at 17,600,000 francs ($3,396,800), and the exports were valued at 10,507,000 francs ($2,027,851).—*James C. McNally, Consul, Liege, Belgium, March 21, 1905.*

Trinidad Electric Tramway Power Plant.—Canadians who are taking an active part in the development of the British West Indies have just realized a handsome profit ($750,000) from the advance in the price of the stock of the Trinidad electric tramway power plant in Port-of-Spain. Not only has the value of the stock increased by a clean $750,000, but dividends of 5 per cent have been paid for two years, and the net earnings are equal to 8 per cent of the capital, and show heavy increases month after month. The dividend of 5 per cent is equal to 25 per cent on the original sum paid for the stock. Still greater revenue will be assured with the carrying out of proposed extensions through a populous and fertile country to other towns in Trinidad. The present power station is sufficient to meet these further demands upon it.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, March 28, 1905.*

Death Test.—Although physicians assert that the possibility of being buried alive can only occur where a medical examination has not been made, German papers state that a stronger, absolutely reliable guaranty for discerning actual death is still demanded. The discovery of a new medium for ascertaining death, with perfect certainty, will therefore attract attention. It consists in injecting a solution of fluorescine deep into the tissues. If circulation exists the skin and mucous membranes become very yellow and the eyes assume the color of emeralds; if the circulation has ceased, none of these results occur. The discoverer, Doctor Icard, proposes that at least two hours before bodies are placed in coffins such an injection with fluorescine be made. If life is not yet extinct the injection does no harm, and the coloring disappears.—*Richard Guenther, Consul-General, Frankfort, Germany, March 18, 1905.*

Liquor License in Halifax.—For the first time in many years it will be legal to drink a glass of beer or whisky in a barroom in the city of Halifax. A liquor-license bill for the city, proposed by the Halifax aldermen, has been passed by the legislature. It is a complete reversion of the provincial license law, and was bitterly opposed by the temperance people. Under the new amendments a scale of high-license fees is adopted. The hours for selling are extended from 9 to 10 o'clock at night, except on Saturday, when the time is extended from 6 o'clock in the evening till 9 o'clock, and selling by the glass is made legal. The city council guaranteed in effect that if these amendments were passed the law would be strictly enforced, including the prohibition of Sunday selling.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, April 7, 1905.*

Emigration via Bremen and Hamburg.—The total emigration via Bremen to the United States in the month of February, 1905, amounted to 20,555 persons, of which 747 were Germans, 5,856 Austrians, 10,571 Hungarians, 3,208 Russians, and 173 all other nationalities. The remainder of the emigration via Bremen during the same month was as follows: To Great Britain, 883; South America. 398; Africa, 5; to all other places, 30.

The total emigration via Hamburg to the United States in the month of February, 1905, amounted to 7,251 persons, of whom 329 were Germans, 4,811 Austro-Hungarians, 1,887 Russians, and 224 all other nationalities. The remainder of the emigration via Hamburg during the same month was as follows: To England, 1,034; Mexico and Central America, 27; West Indies, 6; Brazil, 77; Argentina, 540; other South American States, 22; Africa, 187; Asia, 29. The total emigration via the two ports during the month to the United States numbered 27,806 persons.—*Henry W. Diederich, Consul, Bremen, Germany, March 20, 1905.*

Hungarian Flour Mills.—German press accounts report a crisis existing in the flour-milling industries of Hungary, although they are carefully fostered by the Government. The causes of the depression are decreased exports due to the lower prices at which Argentina and Russian wheat are selling in Austria, and to the fact that American flour has driven the Hungarian flour out of the British markets. Since the beginning of last November nearly all flour mills in Hungary have worked only four days in the week, but as the stocks of flour show no diminution a further reduction in the running time of the mills must take place.—*Richard Guenther, Consul-General, Frankfort, Germany, March 15, 1905.*

Beet and Cane Sugar Mills in Ontario.—It is reported from Wallaceburg, Ontario, where a large beet-sugar plant is located, that its owner is about to try the experiment of importing Trinidad raw sugar to be refined during the season when sugar beets are not obtainable. As the beet supply can be had only a few months in the fall and early winter, the proposed use of the mill during the rest of the year is of the greatest importance from a business and economic standpoint.—*James H. Worman, Consul, Three Rivers, Quebec, March 24, 1905.*

German Chambers of Commerce.—The annual reports of German chambers of commerce are studied attentively by Government departments, economists, financial, commercial, and manufacturing circles, and the public press of Germany. These boards are elected by vote of

the business community, and are composed of prominent business men entered in the official trade registers of the districts. The chambers of commerce are placed by law under the supervision of the minister of commerce, to whom they must report on the economic conditions of their districts. The Government frequently calls upon them for opinions on legislative measures, commercial treaties, construction of canals, railroads, and other important public works; upon tariff measures, sanitary regulations, transportation, commercial and technical education, and upon matters relating to economics and the public welfare. In commercial cases the courts of justice consult the chambers of commerce as experts. The chambers also nominate persons who are appointed by the authorities to fill public offices, such as sanitary inspectors, public experts in chemistry, etc. They memorialize the public authorities in favor of measures beneficial to their district or the trade of the country at large, and they call attention to and ask for the abrogation of existing laws, regulations, and conditions which impede progress.—*Richard Guenther, Consul-General, Frankfort, Germany, March 22, 1905.*

Export of Russian Wool.—Exporters of wool in this consular district informed me some time ago that the Russian woolen manufacturers were urging the Government to put a high export duty on all wools exported to foreign countries, claiming that the greater portion of Russian wools is being exported, and that the large export would cripple the wool trade in Russia, where large quantities were required for the manufacture of clothes for the army. I investigated the matter, and found that the Russian manufacturers did really send a petition to the minister of finance, who at once appointed a committee to investigate what quantity of wool was exported and at what prices. The committee went into every detail of the question, and found that the quantity exported did not exceed the quantity imported; in fact, that the Russian exporters received a better price for the lower qualities of wool abroad than was paid by the Russian manufacturers. In consequence of this, the minister of finance refused to put an export duty on wools.—*Samuel Smith, Consul, Moscow, Russia, March 23, 1905.*

Cotton-Seed Oil, Rice, and Molasses in Spain.—In answer to an inquiry made by a New Orleans commission house as to the opening in this market for American cotton-seed oil, rice, and molasses, I have to report that under existing conditions there is a very poor outlook for trade here in the articles mentioned. The sale of cotton-seed oil in Spain is prohibited, to prevent, so it is said, the adulteration of the

native oils. Rice is protected by a duty of 10.60 pesetas[a] per 100 kilos (220.46 pounds), besides the fact that foreign exchanges stand at over 30 per cent premium. Ground rice, the present market price of which is about 28 to 30 pesetas per 100 kilos, would have to pay an import duty of 30 pesetas per 100 kilos if purchased abroad. Molasses, quoted to-day at about 13 pesetas per 100 kilos, has to pay a duty of 80 pesetas per 100 kilos.—*Benjamin H. Ridgely, Consul-General, Barcelona, Spain, March 11, 1905.*

Immigration into Canada.—The immigration from Europe of settlers for the Northwest Territories has set in with one of the largest passenger lists of the season, the mail steamer *Tunisian* arriving in port from Liverpool, March 19, with 43 saloon, 307 second cabin, and 1,041 steerage passengers, a total of 1,391. The steerage immigrants consisted principally of Britons, Finns, Swedes, and Norwegians, and formed a very clean and healthy looking class. The steamer had an exceedingly stormy passage, gale succeeding gale, and on the 13th and 14th the storm raged with great fury, the sea running dangerously high.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, March 20, 1905.*

Underground Bakehouses in England.—On behalf of the sanitary authorities, the town clerk of Burslem recently prosecuted a baker for using an underground bakehouse. After reciting that, by the factory act of 1901, underground bakehouses were made illegal after January, 1904, and that the local authorities have power to grant a certificate permitting their use if the premises are judged to be sanitary, the prosecutor said: "The defendant having been allowed time by the town council had done all he could to improve his premises, but the council had reached the conclusion that the bakehouse could not be made suitable, and therefore refused to give him a certificate." The defendant's lawyer admitted technical guilt and urged that his client had done his best to meet the requirements. The magistrate decided in the interest of the people that as the bakehouse could not be made sanitary he would not allow it to exist, and while advising the defendant to provide one above ground, adjourned the case for fourteen days to allow him time to comply with the act. My object in reporting this trial is to call attention to the excellent feature of the act, which, while aiming to do away with underground bakehouses, requires only that they shall be sanitary. It gives sanitary authorities and others ample discretionary powers.—*Marshal Halstead, Consul, Birmingham, England, March 15, 1905.*

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[a] The latest estimated value of the Spanish peseta, according to consular reports, is 14 cents.

Copper in Honduras.—A very rich deposit of copper is reported to have been discovered recently in the department of Yoro, in this Republic. Those who have examined it state that the ore is very abundant and very rich, running from 15 to 60 per cent copper. The discoverers have located eight well-defined veins, which can be traced for miles on the surface, two of these being 12 feet wide, one 10 feet, and one 14 feet. It is calculated that the entire body will average 50 per cent copper. The properties are surrounded by forests of oak and pine, there is a coal deposit within 20 miles, water power sufficient to run machinery needed for reduction, etc., is available, and the Ulua River, which is connected by canals with the bay at Puerto Cortes, from which point there is daily communication with the United States, is but 40 miles away. This would appear to be a proposition worthy of the attention of American capitalists.— *William E. Alger, Consul, Tegucigalpa, Honduras, March 29, 1905.*

American Meat on German Vessels.—At the session of the German National House of Representatives, March 11, 1905, Count von Bernstorff, an Agrarian member, said the steamships of the North German Lloyd and of other emigrant-carrying German lines on their home trips bring back American meat, contrary to the German meat-inspection law, which applies to all German vessels, as they are German territory. In reply, Count Posadowsky, the German secretary of state for the treasury, stated that "the North German Lloyd used very little American meat, but its ships must carry a supply of it on their home trips, or otherwise give the passengers only salt meat. The remarks of Count Bernstorff as to applying the meat-inspection law to German vessels are extreme and questionable in point of law. If the meat-inspection law were to be applied in such manner it would become necessary to put a Government meat inspector on every vessel. This would hardly be practicable."—*Richard Guenther, Consul-General, Frankfort, Germany, March 13, 1905.*

Gold Production in Japan.—Under date of March 2, 1905, United States Consul-General E. C. Bellows, Yokohama, transmits the following extract from the Japan Gazette of the same date:

Since the opening of hostilities gold mining in Japan has been encouraged by the Government to aid the specie reserve fund. The Government endeavors have proved successful, and about 8,500,000 or 9,000,000 yen [$4,233,000 or $4,482,000] worth of gold was mined in the interior from March to December last. If the amount is added to the output in Formosa during the same period, it will reach 10,000,000 yen [$4,980,000], and if the products in Japan until February this year be included, the total will exceed 12,000,000 yen [$5,976,000], against 6,000,000 yen [$2,988,000] in ordinary years.

Scarcity of Caviare.—A Haymarket firm which cures caviare in the Astrakhan district of Russia, in an interview in the London Daily Mail, states that the scarcity of caviare in the English market is due to excessive fishing in previous years and to bad weather during the spawning season, and not to the Russo-Japanese war. Most of the fishermen are Kirgheses, who are not called upon to serve in the Russian army. Caviare for the winter is prepared mostly at the autumn fishing on the Volga and the January fishing on the Ural. At other times it is made from fish kept alive in large barges sunk in the river. Last autumn the fishing results were quite inadequate to supply the demand.—*Marshal Halstead, Consul, Birmingham, England, March 16, 1905.*

Rubber Forests in Argentina.—Valuable gum-tree forests are thought to have been discovered in the province of Salta, this Republic. Specimens of the latex, or sap of the gum tree, have been sent to the capital for official examination, and the matter has proved of sufficient importance to warrant the Government appointing a special commission to proceed to the region in question to make an exact estimate of the value of the resources.—*A. M. Beaupré, United States Minister, Buenos Aires, Argentina, March 8, 1905.*

Developing the Canadian Merchant Marine.—Canada is taking steps to develop her merchant marine. The Dominion parliament has just voted a liberal appropriation for the five schools of navigation at Montreal, St. John, Victoria, Halifax, and Yarmouth. A general preliminary training in seamanship is given to a large number of young men, many of whom ship with a good start in the knowledge required on merchant vessels.—*James H. Worman, Three Rivers, Quebec, April 5, 1905.*

Rice Crop of Japan.—United States Consul-General E. C. Bellows, Yokohama, March 2, 1905, transmits the following from the Japan Gazette of even date:

The rice crop for 1904 is now announced to be 51,402,999 koku [263,692,255 bushels], an increase of 4,928,699 koku [25,284,226 bushels], or 16 per cent, as compared with that of the previous year. The figures also show an increase of 9,105,061 koku [46,708,963 bushels], or 21½ per cent, in comparison with an average for the past seven years, from which the most favorable year and the poorest year are deducted, the average being taken from the remaining five years. This unprecedented yield is due to the prevalence of good weather in the country generally since the planting out and to many agricultural improvements being made by farmers.

School for Customs and Revenue Officers.—The Frankfurter Zeitung states that the senate of Hamburg advocates the establishment of a school for custom-house and revenue officers, as the new customs tariff of Germany imposes duties on many articles heretofore free of duty, and in consequence of a much greater specialization of goods there are more exacting requirements as to knowledge of the technical character of goods and industries. The innovation deserves imitation elsewhere, and the senate believes it will tend to save importers from a good deal of vexation and worry chargeable to the ignorance of officials.—*Richard Guenther, Consul-General, Frankfort, Germany, March 23, 1905.*

Japanese Mining and Railway Mortgage Laws.—Under date of March 23 and April 4, 1905, the American minister to Japan (Lloyd C. Griscom) transmits printed (English) pamphlets, covering the mining law and the new railway mortgage law of Japan, which are on file in the Bureau of Statistics, Department of Commerce and Labor, where they may be consulted by those interested.

Prospecting in Madagascar.—Under date of March 16, 1905, United States Consul William H. Hunt, Tamatave, Madagascar, transmits a translation of the law regulating the prospecting for precious metals and precious stones in Madagascar, which is on file in the Bureau of Statistics, Department of Commerce and Labor, where it can be inspected by persons interested.

Chambers of Commerce in Foreign Countries.—Most of the annual reports of the German chambers of commerce regret that the Government does not support the establishing of German chambers of commerce in foreign countries, and that, for want of financial support, the German chambers of commerce at Brussels and at Bukharest have been closed. These had been established and supported by local German firms and by German exporters and manufacturers trading with Belgium and Roumania. It is claimed that these two chambers worked beneficially for German exporting interests. Attention is called to the increased number of foreign chambers of other commercial nations; that the United States now has three (Paris, Brussels, and Berlin); Belgium five (Paris, London, Amsterdam, Bukharest, and New York); Greece two (Constantinople and Alexandria); Canada, one (Paris); the Netherlands six (Paris, London, Brussels, Smyrna, New York, and Melbourne); Austria-Hungary five (Paris, London,

Constantinople, Alexandria, and Melbourne); Russia two (Paris and Alexandria); Switzerland one (Brussels); Spain six (Paris, London, Tangier, Lima, Buenos Aires, and Montevideo); Italy twenty-one, some of which are noted as receiving annual subventions amounting to from $700 to $1,800; France, twenty-nine, some of which receive from $300 to $1,400 annual subvention; Great Britain five (Paris, Nice, Genoa, Constantinople, and Tunis), and one hundred and five in her colonies. Canada has been very active in sending commercial agents to foreign countries in order to increase Canadian exports. The method has proved very successful.—*Richard Guenther, Consul-General, Frankfort, Germany, March 20, 1905.*

Bonus to Steel Vessels Built in Canada.—The Halifax delegates have returned from Ottawa, whither they went to meet delegates from other parts of the Dominion to present a petition to the government asking for the passage of a bill granting a bonus of $6 per gross ton for steel ships built in Canada, and are confident a bill will be introduced for that purpose by the government during the present session. The delegation prepared a joint memorial reciting what other nations were doing in assisting shipbuilding; urging the importance of Canada building her own ships, without which her industries could never be developed to their fullest extent, and concluding by asking the government to grant a bonus of $6 per gross ton. The ministers evinced great interest and considered the proposition carefully with the delegates, all of whom were delighted with the sympathetic hearing they received and the favorable consideration given to their representations. The Halifax delegates are confident the government will grant the bonus and that a bill for the purpose will be introduced this session. Mr. Nichols, vice-president of the Dominion Iron and Steel Company, assured them that if the bonus was granted he might be able to provide the capital to launch the industry on a large scale in Halifax, where bonuses totaling $300,000 are already available.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, March 27, 1905.*

Reed and Rush Fiber Bags and Carpets.—The family of Ratvany-Deutsch, which has hitherto interested itself in the production of beet sugar, is the owner of patents in all countries for converting reed and rush fiber into yarn suitable for bags and carpets, instead of jute and other more expensive materials. The Ratvany-Deutsch family proposes to establish factories in convenient river localities, where the materials and water power are abundant, not only in Hungary and Roumania, but also in the United States, if such localities exist there.

An employee has promised to supply me with a sample reed-fiber bag, which I will forward to the Department. The questions arise whether American capitalists would care to purchase and control the American patent and its working, and whether American reed and rush fiber-working machinery exporters should not send in their offers in due time. I should like very much to have a list of American exporters of such machinery.—*Frank Dyer Chester, Consul-General, Budapest, Hungary, March 21, 1905.*

Teredo-Proof Pile Covering.—A company has recently been formed here to manufacture a teredo-proof pile covering, an invention of a resident of British Columbia. A pile covered with this material was placed in a very exposed position on the water front three years ago and remains as perfect as when it was first driven, while the piles that have not been treated, and which surround it, are honeycombed by the teredo's work. It is said that the coating is not subject to corrosion like copper covering and costs about one-third as much. It can not be diluted or washed out by sea water, as invariably happens with paints and carbolic washes. The company will also manufacture a solution for the prevention of dry rot in sills, joists, posts, and bridge and tie timber.—*L. Edwin Dudley, Consul, Vancouver, British Columbia, March 28, 1905.*

New Submarine Boat.—German papers report that the Italian engineer Querrolli has invented a submarine boat, not intended for war purposes, but for picking up articles from the bottom of the sea. To this end it is provided with strong grappling hooks which are moved by electrical power. It was recently tested at Genoa. The greatest depth yet reached by the boat was 348 feet, and the crew did not experience any difficulty in breathing at this depth.—*Richard Guenther, Consul-General, Frankfort, Germany, March 8, 1905.*

Argentine Foreign Trade.—The following statistics relative to the foreign trade of Argentina are taken from German publications, which seem extremely anxious about the trade of that Republic. The imports of Argentina in 1904 were valued at $187,306,000 gold, exceeding those of 1903 by $56,100,000. These imports came from the following countries: Great Britain, $64,500,000; Germany, $24,900,000; United States, $24,500,000; Italy, $19,100,000; France, $17,100,000; Belgium, $9,100,000; Brazil, $6,000,000; Spain, $4,800,000; Paraguay, $1,600,000; Netherlands, $1,000,000. Though the imports from the United States show considerable gain over 1903, the trade is far below what it should be, and would be, if our manufacturers were to send a number of com-

petent agents to that prosperous country. In 1904 Argentina exported goods worth $264,160,000, an increase of $43,180,000 over her exportation of 1903.—*Richard Guenther, Consul-General, Frankfort, Germany, April 3, 1905.*

Peat Manufacture in Manitoba.—H. A. Richardson will establish a peat-making industry at Winnipeg, Manitoba, having purchased the necessary excavating and compressing machinery. Mr. Richardson estimates that peat fuel produced by his patented process can be supplied to Winnipeg consumers at $5.50 per ton, and will compare favorably with anthracite. The expense to which peat companies have hitherto been put in draining the bog before operating is avoided. The machine is built on a scow; the peat is taken in at the end from the bog by a series of buckets on endless chains, dumped into a hopper and in from 28 to 45 minutes comes out at the other end in the form of perfected briquettes. It is claimed that by avoiding the air-drying process some of the best elements usually lost are retained in the peat. Each machine can take 500 tons of peat from the bog daily and turn it into 100 tons of briquettes.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, March 22, 1905.*

Americans in non-American Trade.—United States Consul-General Henry Bordewich, of Christiania, in his annual report on the foreign commerce of Norway for Commercial Relations for 1904, reports as follows:

Commercial information is often asked by trading and manufacturing concerns in Great Britain and Germany claiming to be branches of American houses. In some instances I have no facilities for ascertaining the facts. If such concerns use foreign material and employ foreign workmen in their shops they would, in my opinion, have no more right to receive commercial information from American consuls than foreigners.

Premiums for Killing Sharks.—German papers report that the marine board of Trieste, Austria, has issued a circular in which all Austrian marine officers are instructed to stimulate the killing of sharks. Premiums are offered as follows: For each specimen of shark, of whatever species (the eatable ones excepted), up to 5 feet in length, $2.30; for larger ones, $4.60, and for very large specimens of the species Oxyrrhinna spalanzani and Odontaspis ferot, $11.50. For the capture of man-eating sharks premiums of from $9.20 to $230 are offered. Fishermen making application for payment are to exhibit the specimens to the nearest harbor officer.—*Richard Guenther, Consul-General, Frankfort, Germany, March 23, 1905.*

American Manufacturers in Canada.—The Fairbanks Company, manufacturers of scales, mill supplies, etc., heretofore owned by the United States concern of the same name, has been reorganized as the Canadian Fairbanks Company (Limited), Montreal, with Mr. H. J. Fuller president and treasurer. Up to the present the Fairbanks Company has imported all its supplies from the United States, but it is now announced that the Canadian Fairbanks will erect a factory and manufacture its wares in Montreal. Mr. Fuller states that the site has not yet been decided upon, but that the factory will be built and will give employment to 300 hands.— *W. R. Holloway, Consul-General, Halifax, Nova Scotia, March 22, 1905.*

German Exclusion of Foreigners.—A leading journal representing German exporting interests says:

Germans are too liberal in every respect. We allow foreigners full insight into many of our matters to the injury of our interests. Our polytechnic institutions educate foreigners; our factories and countinghouses are the schools where the managers of foreign technical and mercantile firms obtain instruction. From all sides come expressions calling for a change in this practice. We must become more selfish and in this respect learn from our competitors, especially from England and the United States.

The editor then objects to the present mode of publishing official statistics by means of which it is feared foreign competitors make use of information obtained for their advantage and to Germany's injury. Well-informed persons do not agree with the views thus expressed, knowing that there are fewer restrictions and a more liberal spirit in England and the United States than in Germany.—*Richard Guenther, Consul-General, Frankfort, Germany, March 20, 1905.*

Emigration from Spain.—Emigration from Spain is increasing, and the press and governing classes are alarmed. When it is remembered that there are 75,000,000 acres of arable land uncultivated in Spain, the loss of thousands of workers annually is a serious cause of anxiety. The other day 4,000 laborers, mostly young people, embarked from Valencia and Tarragona for Brazil and Argentina; 5,000 are waiting transportation from Malaga, and thousands are leaving from Spanish ports on the Atlantic. The hegira of labor is the theme of constant discussion in all the newspapers of Spain. The taxes are so onerous and the prices of living so advanced that in some cities it is impossible for the ordinary laborer to subsist.—*Extract from the annual report (for Commercial Relations, 1904) of Commercial Agent M. M. Price, Jeres de la Frontera, Spain.*

Coal Mine Shearing Machines.—Representatives of several coal mining concerns on the mainland of Nova Scotia have been watching with the keenest interest the experiments with shearing machines which have been conducted in several collieries of the Dominion Coal Company at Sydney for the past month, and the success of the new method will probably mean that the machines will be introduced into a number of the collieries within a short time. Besides creating a world's record for shearing a dozen rooms, as mentioned in a dispatch to the Halifax Chronicle from Glace Bay, the machine cut out a solid block containing 8 tons of coal from the face of the seam in Dominion No. 1 mine. This is said to be the largest block ever taken from a mine in Nova Scotia.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, April 1, 1905.*

Great German Steamship Line.—The report of the Hamburg-American Steamship Company of its operations in 1904 shows a highly prosperous year's business. The net profits amount to $6,623,474 ($4,833,405 in 1903), after having paid the interest on its bonded debt, an increase as compared with 1903 of $1,790,000. These earnings do not include the very considerable profit made by selling a number of steamships to the Russian Government. The company now owns 149 ocean steamships and 182 smaller vessels. Their total capacity is 764,551 gross register tons, exceeding that of 1903 by 36,000 tons. These vessels run on 46 routes, and the company has a controlling interest in six foreign shipping lines. The company is extending its business in all directions over the world. It has established pleasure excursion lines which make trips to South America, to the North Cape, around the Mediterranean, and around the world. These ocean excursion lines are very popular, are well patronized by tourists from America and Europe, and pay well. The company has started a "sanitary steamship excursion" which is to benefit invalids by sea voyages, and it is about to run a fleet of steamers for touring the Nile. It has organized a special bureau for "tourist excursions" which will rival Cook's.—*Richard Guenther, Consul-General, Frankfort, Germany, April 4, 1905.*

Canadian Automobile Duties.—The government has announced that the duty on automobiles imported into Canada will be 35 per cent ad valorem instead of 25 per cent as heretofore. According to the explanation of the minister of finance the 25 per cent rate was adopted temporarily when automobiles began to be imported from the United States, the minister holding that they should come under the head of

vehicles, but it was finally decided to admit them for the time being as gasoline engines, on which the duty is 25 per cent. The minister reaffirms his first view and classifies automobiles as vehicles at a 35 per cent rate.— *W. R. Holloway, Consul-General, Halifax, Nova Scotia, March 22, 1905.*

Emigration via Amsterdam.—The number of emigrants via Amsterdam to the United States in 1904 was 41, consisting of 20 Netherlanders and 21 Germans; to Surinam and Dutch India direct, 307; from Amsterdam via England, 278; to South Africa, via England, 16; total emigration via Amsterdam, 642. Of the emigrants to Surinam and Dutch India 307 were Javanese, 277 Russians, and 1 Hungarian. All the emigrants to South Africa were Dutch.—*Frank D. Hill, Consul, Amsterdam, Netherlands, April 15, 1905.*

Swindle Exhibitions and Bogus Diplomas.—Last year the ministry of the interior of the Grand Duchy of Baden issued an order to the authorities of the larger cities to keep a vigilant lookout for "swindle expositions," which frequently turn up in places where real exhibitions are held. The swindlers, for stipulated sums, furnish applicants with bogus exhibition diplomas, medals, etc. The authorities are also instructed to proceed against all persons who advertise that they have received exhibition prizes or diplomas which are found to have been illegitimately obtained. In 1904 the Prussian minister of the interior issued similar instructions to the governors of the provinces, and the governments of several German States have made inquiries of chambers of commerce as to the extent to which the swindle has been practiced.— *Richard Guenther, Consul-General, Frankfort, Germany, April 5, 1905.*

Newfoundland Bait Act.—A North Sydney (Nova Scotia) telegram says it looks very much as if the enforcement of the Newfoundland bait act against American fishermen would be an illustration of the proverb "It's an ill wind that blows nobody good." Newfoundland's action may greatly benefit Cape Breton. Last year the rigid enforcement of the act against French fishermen forced the St. Pierre fleet to seek their supply of bait in Cape Breton, and hundreds of French fishing vessels came to North Sydney and purchased at high prices, of the local fishermen, herrings which it formerly scarcely paid to catch. This year it is expected that hundreds of Gloucester schooners will follow the example of the Frenchmen and seek bait and supplies at this port.— *W. R. Holloway, Consul-General, Halifax, Nova Scotia, April 20, 1905.*

Bad Branding of Cattle.—The French chamber of commerce at Montevideo, Uruguay, states that numerous complaints from dealers have been received against the prevailing mode of branding cattle along the Rio de la Plata, whereby hides and leather are injured. In a communication to the Uruguayan Government, the chamber estimates the annual loss incurred by this injurious practice at from $800,000 to $1,000,000. The Government has appointed a commission to study the subject and to propose measures to bring about a reform.—*Richard Guenther, Consul-General, Frankfort, Germany, March 16, 1905.*

Merchant Marine as an Auxiliary to Naval Power.—A German contributor to a London journal states his belief to be that a large merchant marine is essential to a strong and efficient navy, in order that the crews of men-of-war may be reenforced from the merchant marine in times of emergency. A large fleet of ocean steamships is also required for transports to convey troops in war times across the oceans and to carry coal and other supplies to the fighting ships.—*Richard Guenther, Consul-General, Frankfort, Germany, March 10, 1905.*

Canadian Bonuses and Subsidies.—Capt. J. A. Farquhar has proposed to the North Sydney city council to build a railway dry dock at that place, involving an expenditure of $250,000, if a bonus of $2,500 a year for twenty years with free water and exemption from taxes are granted him. He has received the assurance of the Dominion government that the bonus of 3 per cent is available for this railway dry dock. He is also interesting the government with a view to obtaining a subsidy for a complete modern wrecking plant to be established at North Sydney. This would cost about $140,000 additional. It is claimed that a wrecking plant at that point should secure all the wrecks occurring in that vicinity. The proposed company will ask for free water and exemption from taxation.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, March 30, 1905.*

Coffee and Sugar Bags for Central America.—The Belgian legation in Guatemala reports the importation into Central America of coffee and sugar bags, hempen yarn for sewing and ink for marking them to be of considerable magnitude. The following estimates are given: Guatemala, value, $138,991; Salvador 450,000 bags, almost exclusively of English make; Costa Rica 300,000 coffee bags; Nicaragua 250,000 to 300,000 bags, principally from Dundee, Scotland; a

small part from the Netherlands, Italy, and East Indies. The importation of bags into Honduras is inconsiderable.—*Richard Guenther, Consul-General, Frankfort, Germany, March 16, 1905.*

Trade Openings in Canada.—The board of control, Toronto, is asking for tenders for the furnishing and erection of either a 5,000,000 or 6,000,000 imperial gallon, triple-expansion, fly-wheel pumping engine for waterworks purposes, and will also receive tenders for the supply of cast-iron water pipes for the year ending April 1, 1906; also for the supply of lumber for repairs to bridges and wharves up to December 31, 1905. The Canada Car Company, Montreal, is inviting tenders for the machinery for the different buildings now in course of erection.—*James H. Worman, Consul, Three Rivers, Quebec, April 20, 1905.*

National Bank of Abyssinia.—The Emperor Menelik, according to German papers, has granted a concession to the National Bank of Egypt to establish a national bank of Abyssinia in and for that Empire. French and Italian financiers are said to furnish part of the capital.—*Richard Guenther, Consul-General, Frankfort, Germany, March 15, 1905.*

Portland Cement in Canada.—The Ontario bureau of mines is in receipt of an inquiry from London, England, in which the writer says a Portland cement combine practically exists in Great Britain, and asks if the Canadian material could not be shipped thither. It is thought at the bureau that the price mentioned, $4.86 a ton, would hardly be remunerative. It is stated that all Canadian plants, until recently, made cement from marl, but one at Hull, Quebec, and one now in course of erection at Belleville, Ontario, will follow the United States method of using limestone, which is not so costly. An American recently obtained information from the bureau regarding limestone deposits which would warrant the erection of a cement factory.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, March 22, 1905.*

Temperance and Longevity.—At the annual meeting of the Abstainers' and General Insurance Company held in Birmingham recently, the chairman announced that the mortality rate, favorable to the company, on the lives insured had again been maintained, and that in the twenty-one years of the company's existence the mortality had not yet exceeded 50 per cent of what might have been expected from the ordinary standard table of the Institute of Actuaries, which

represented an enormous saving of interest on capital that otherwise would have been paid in claims. He attributed the satisfactory mortality record largely to the members abstaining from the use of alcoholic liquor.—*Marshal Halstead, Consul, Birmingham, England, April 20, 1905.*

New Variety of Sweet Potato.—A new variety of sweet potato having great economic value has been acclimated in the experimental gardens of Bordeaux. It is a native of Dahomey and very prolific. The leaves of the plant can be used as a substitute for spinach, and the tubers, containing a higher percentage of sugar than beets, are fine flavored and make exceptionally good food for live stock. At present the authorities have only a limited quantity of tubers, and as these are to be used wholly for reproduction it will not be possible to obtain samples for American experimenters until next year. A few hundred "sprouts" have been distributed among French agriculturists. A box containing ten of these "sprouts" has been placed at the disposition of the American consul, as the representative of the Smithsonian Institution, but as the young growths are extremely fragile and very susceptible to changes of temperature it is feared they may not survive transit to the United States, however well they may be packed.—*Albion W. Tourgée, Consul, Bordeaux, France, April 21, 1905.*

World's Product of Quicksilver.—The production of quicksilver in 1904 is estimated at 3,391 tons, not including the output of Mexico and Russia, of which no statistics have been received as yet. In 1903 these countries yielded 190 and 362 tons, respectively. The production in 1904 of the United States, Spain, Austria, and Italy was 1,480 tons, 1,020 tons, 536 tons, and 355 tons, respectively. Counting the output of Mexico and Russia, the world's production for 1904 will probably amount to 4,000 tons.—*Richard Guenther, Consul-General, Frankfort, Germany, April 3, 1905.*

American Steel Makers in Canada.—A telegram from Sarnia, Ontario, says: "With a view to establishing an immense steel plant, twelve millionaire officials of the United States steel trust visited this city yesterday. The magnates came on their own train, met a delegation of Sarnia business men, and inspected river front property. For some time the steel trust has been looking for a good outlet into Canada and has opened negotiations for establishing a steel plant."—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, April 7, 1905.*

Canadian-Mexican Trade.—The proposed Atlantic coast steamship service between Canada and Mexico has been abandoned, the Mexican Government having refused to contribute anything for a line that calls at Cuban ports on the way to and from Canada. As it is impossible to get a steamship to take the contract under the terms suggested by Mexico, the arrangements are off. The department of trade and commerce has decided to offer a subsidy for a line of steamships to Cuba, touching the Bahamas. Bids have been asked for a monthly service the year round between Canada and Cuba, calling at Charlottetown, Halifax, and Nassau. In summer the steamers will start from Montreal and in winter the terminus will be Halifax. The department expects to have the line established this season. The proposed line on the Pacific to Mexico has not yet been started, and there will have to be further negotiations between the two Governments.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, April 19, 1905.*

British Shipbuilding Boom.—From the returns compiled by Lloyd's Register of Shipping it appears that, excluding war ships, there were 474 vessels of 1,251,343 tons gross under construction in the United Kingdom at the close of the quarter ended March 31, 1905. This is an increase of nearly 202,000 tons since the end of last December, while at the end of March last year 398 vessels of 988,664 tons gross were under construction.—*Joseph G. Stephens, Consul, Plymouth, England, April 15, 1905.*

German Trans-Oceanic Bank.—The German Trans-Oceanic Bank at Berlin, which has branches in Mexico, Argentina, Chile, and Spain, and will shortly open a branch bank in Peru, has just published its business statement for 1904. Its capital stock, which was increased during the year by 3,000,000 marks ($714,000), is 15,200,000 marks ($3,167,000). The gross earnings in 1904 were 3,606,000 marks ($858,204) and the net profits were 1,550,000 marks ($368,900). It declares a dividend of 8 per cent on the capital stock. The amount of business done in 1904 (counting from only one side of the ledger) was 6,264,000 marks ($1,490,832). The bank reports very favorably on the economic standing of Argentina and Mexico, and states that conditions were fairly good in Chile, where the advance in the price of copper and saltpeter stimulated trade, that the commerce of Spain suffered from the drought, and that her industries feel the loss of the colonies.—*Richard Guenther, Consul-General, Frankfort, Germany, March 15, 1905.*

Motor Buses in Malta.—Not content with a new tram line recently inaugurated, a company has been formed to run a service of public electric buses between points in Malta not yet covered by the tram line. The company is building a garage, which will be fitted for storage of its vehicles and for the repair of its own and other motor cars. A complete installation will be provided, offering facilities for charging accumulators for electric carriages. For public service there will be a 20-horsepower, 17-seat, single-deck bus; four 24-horsepower, 36-seat, double-deck buses, and one 24-horsepower lorry. The 24-horsepower cars will have magnetic ignition and the 20-horsepower ordinary high tension. All of the vehicles will be fitted with electric lights. It is expected that the new service will be opened about June 1.—*John H. Grout, Consul, Valletta, Malta, April 10, 1905.*

Prizes for Inventors.—Under date of April 20, 1905, United States Consul-General Richard Guenther, of Frankfort, Germany, states that the Associazione degli Industriali d' Italia, No. 61 Foro Bonaparte, Milan, Italy, invites inventors to compete for two prizes offered by it, as follows:

First prize, $1,600 and a gold medal, for a new method to prevent danger which may arise from the contact of high tension with low tension wrapping at electric rotary current transformers; second prize, $100 and a gold medal for a simple, strong, and reliable safety device for stopping cars running on an inclined plane in case of the breaking of the wire cable. The device must be capable of adjustment to ordinary cable roads now in use.

Imports of Cotton into Spain.—Under date of April 8, 1905, Consul-General Ridgely, Barcelona, Spain, transmits the following table, showing the imports of raw cotton into Spain for the six months ended March 31, 1903, 1904, and 1905:

Imports of raw cotton into Spain during the six months ended March 31, 1903, 1904, and 1905.

Whence imported.	1903.	1904.	1905.
	Bales.	*Bales.*	*Bales.*
United States	170,759	158,648	195,251
Peru	952	3,755	3,356
Jumel	17,482	11,187	5,337
India	13,665	22,446	11,503
Other Asia	2,659	12,925	12,443
Total bales	205,517	208,961	227,890
Total pounds	100,606,792	101,349,613	110,512,487

Flour Mills in Canada.—It is announced that the Lake of the Woods Milling Company has decided to erect a flouring mill with a capacity of 4,000 barrels of flour per day at Montreal and a mill with a capacity of 5,000 barrels per day at Winnipeg. The Lake of the Woods Milling Company is one of the largest producers of flour in the Dominion, with mills at Keewatin, capacity 4,000 barrels daily, and at Portage la Prairie, capacity 1,000 barrels daily. The proposed increase will nearly triple the company's present capacity. The company expects to have the plans for the two new mills completed by June and construction will be begun as early as practicable. Electric power will probably be used. The Ogilvie Flour Mills Company, another very large Canadian concern with mills at Montreal and Winnipeg, is building a mill at Fort William. These improvements are intended to meet in part the growing demand for milling capacity by the increased wheat production of the Canadian Northwest.—*John G. Foster, Consul-General, Ottawa, Ontario, April 27, 1905.*

Electric Railway Project in North Bohemia.—A Berlin newspaper, Die Deutsche Strassen- und Kleinbahnzeitung, announces a project said to be supported by railroad investors to connect by electric railway the principal towns of northwest Bohemia (Reichenberg, Gablonz, Kratzau, Gabel, Zwickau, Haida, Rumburg, Warnsdorf, Steinschönau, Bensen, Tetschen, Aussig, Teplitz, Schluckenau, Kreibitz, and Kamnitz) with Zittau on the Saxon border. No satisfactory details are given, and the scheme finds neither confirmation nor credence here, although it is safe to say that in such a field, thickly populated and visited annually by great numbers of tourists, it would not be considered chimerical in the United States.—*S. C. McFarland, Consul, Reichenberg, Austria, April 7, 1905.*

New Typewriting Machine.—Somewhat meager details of a newly invented German typewriting machine are going the rounds of the press. As described it prints syllables and short words instead of single letters, attains much greater speed than others, and, it is claimed, will revolutionize the art of typewriting. So far as can be ascertained the machine is not yet on the market. A leading newspaper comments that when it is remembered how many millions from Germany and all Europe have gone to America for typewriter supplies the new product of German invention will be greeted with satisfaction.—*H. W. Harris, Consul, Mannheim, Germany, April 8, 1905.*

Submarine Bells.—An inspector who has just returned from a tour of the buoys on the coast of Nova Scotia reports that the submarine bells which have been placed in position, one off Sambro and the other off Egg Island, are working admirably. The bells can be heard at a distance of 5 miles, as tested by the steamer *Laurier*, which is equipped with a receiving instrument on which the sound is heard. Submarine telephone signals will be established at several other points on the Nova Scotia coast in the Bay of Fundy and on the Cape Breton seaboard. The department of marine has contracted for a large number of these well-tried and successful aids to navigation and they will be installed as rapidly as possible. It is expected that all steamers running to Canadian ports will soon be supplied with the receiving apparatus which will enable approach to the coast with safety in all kinds of weather. Mr. Prefontaine, minister of marine, made a personal test of the submarine telephones on the Metropolitan Line steamers running between Boston and New York, and he is confident that these bells will be of the utmost value to Canadian shipping.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, April 20, 1905.*

Atlantic Salmon in British Columbian Waters.—It is stated here that the department of marine and fisheries at Ottawa has shipped 250,000 eggs of the Atlantic salmon to be planted in Vancouver Island waters. The experts think that Atlantic salmon will do well in these waters. Heretofore there has been strong objection to the introduction of the Atlantic salmon, because its meat is so light in color, the canners preferring the dark-red fish for their purposes. I apprehend, however, that these salmon will be planted in the inland waters on Vancouver Island and will become "land-locked" salmon, such as we find in several of the lakes in Maine, and that the stocking of these waters with Atlantic salmon is primarily for the benefit of sportsmen. I think the Atlantic salmon superior as a table fish to the "dark-red fish," and sportsmen accustomed to the use of rod and reel find no better sport than is afforded by it.—*L. Edwin Dudley, Consul, Vancouver, British Columbia, April 6, 1905.*

New Anæsthetic.—German papers report that a new anæsthetic juice has recently been discovered in Japan, the product of a plant growing in that Empire. This anæsthetic has been called scopolamine, and is said to be superior in its effects to all other articles of this kind. It is administered hypodermically and produces a deep sleep lasting from eight to nine hours. If the assertions concerning scopolamine are confirmed it will certainly be used in surgical operations, as it is

claimed that it does not produce the slightest ill after-effects, which are always to be feared with anæsthetics hitherto used.—*Richard Guenther, Consul-General, Frankfort, Germany, March 31, 1905.*

Electric Cars for Lima.—The Empresa del Tranvia Urbano de Lima (Lima Horse Car Company) will receive proposals from the United States for the material which it intends to purchase in order to transform its present line into an electric trolley road. The company will need some 45 cars, with a seating capacity of 40 persons each. These are to be run by overhead trolleys. It will also purchase wires, rails, transformers, rotaries, etc. American exporters of these classes of goods should address Señor D. Joaquin Godoy, Gerente, Empresa del Tranvia Urbano, Lima, Peru, sending plans and proposals, and not English catalogues merely.—*A. L. M. Gottschalk, Consul, Callao, Peru, March 31, 1905.*

Machinery Wanted in Warsaw.—American manufacturers of machinery for making wooden heels for shoes can effect sales if they will communicate promptly (in German or Polish) with E. Bansleben, Krakowskie Przedmiescie, No. 65, Warsaw. The wooden heels used in making women's house slippers, carriage foot wear, etc., are at present purchased from German manufacturers, but it is now intended to manufacture them locally. Machinery for the manufacture of brass and iron shoe nails can also be sold here. English catalogues will not successfully reach the trade. A German catalogue will answer the purpose far better.—*Clarence Rice Slocum, Consul, Warsaw, Russia, April 17, 1905.*

Steel Plate Combine in Germany.—Under date of April 7, 1905, United States Consul-General Richard Guenther, of Frankfort, reports that fifteen of the leading German manufacturers of steel plates for ships have combined to regulate prices and production.

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ANSCHÜTZ GYROSCOPE.

(From United States Consul-General Wright, Munich, Germany.)

The gyroscope is an instrument designed to replace the compass or to serve as a check upon its accuracy. Dr. H. Anschütz-Kämpfe is the inventor of the apparatus, and it is made by a Kiel instrument firm. Like the compass, it consists of three main parts, viz, the binnacle, or holder, firmly fixed to the ship; the bowl, suspended in gimbals within the binnacle, so that it retains its horizontal position, and the actual system, fixed on a vertical axle on which it can revolve, and supplied with a rose or indicator, which shows the rotation of the system against the bowl.

The direction of the needle in the compass is given by its magnetic power, which sets it always in the direction of the magnetic pole, while in the gyroscope the system consists of a mechanism rapidly rotating on a horizontal axle, which is so fixed that it can turn in all directions. The axle of such a rotating mechanism has the tendency to retain its direction. When the binnacle is turned to a certain angle, the rose will turn against the binnacle to the same angle, as it is fixed to the internal system. Therefore the rose will indicate, in degrees or lines, every change in the ship's course.

From the foregoing the following differences in the working of the gyroscope and of the compass will be seen, which will allow a judgment of the practicability of the former to be made:

(1) As the system of the compass (the magnetic needle) is held in position by the magnetic power of the earth, it will always return to its original position if it has been moved. On the other hand, the system of the gyroscope (the rotating mechanism) retains the position in which it is set with great tenacity.

(2) For the reasons given in paragraph 1, the gyroscope, when it is turned from its set position, will tend to remain in the new position until it is affected by some other influence. In consequence of this errors could occur in the indications of the gyroscope after it had been in use some time, so that it would require resetting in order to be of

utility. On the other hand, the compass is always held in position by the magnetic power of the earth and shows no error after long use.

(3) In consequence of the earth revolutions the axle of the gyroscope would gradually revolve, the rapidity of the movement being dependent upon the latitudinal position of the ship. The movement would amount to 1 degree in 4 minutes at the North Pole. In consequence of the rotundity of the earth the gyroscope would turn slowly toward the course of the ship in accordance with the longitudinal position of the ship. Latitude and longitude have no influence on the compass.

(4) As modern vessels are built of iron and contain unequally placed masses of that metal, the compass does not have the same position in the magnetic meridian in all courses, but shows more or less deviation. Even though this is avoided to a certain extent by compensation of the compass, experience shows that after long voyages or in consequence of violent shocks to the vessel, such as the firing of big guns or on account of the movement of large bodies of iron on board, such as the turrets, heavy guns, davits, and cranes, this deviation is considerably increased. In consequence of this, when the ship turns or alters its course the compass will not accurately show the change. To insure accuracy it would be necessary to avoid all shocks and movement of large iron bodies, and to prevent deviation, or at least to know the deviation for all courses. In addition to this there is the friction of the rose in liquid compasses when the ship is rapidly turned. The gyroscope, on the other hand, is not influenced by magnetic bodies.

(5) In consequence of the firm and solid construction of the gyroscope, as well as its great power of resistance, it is not influenced by shocks, as is the compass. As is well known, the latter often becomes useless when great vibration takes place, as on torpedo boats running at forced draft and on war ships during firing operations.

Paragraphs 4 and 5 show undeniable advantages of the gyroscope over the compass, while paragraphs 1, 2, and 3 show its disadvantages.

The characteristics of the gyroscope given in paragraph 3 gave rise to difficulties which were found to be almost impossible to surmount. Eventually Doctor Anschütz-Kämpfe invented an ingenious device, by the application of which it was possible to eliminate the said disadvantages and to render the gyroscope reliable and fit for practical employment.

In consequence of the characteristic of the gyroscope mentioned in paragraph 1, it will show changes in the course accurately, but will not show the actual course. If it is desired to use the gyroscope for the purpose of holding to a certain course, it is necessary to set the rose or the steering mark in the direction of the desired course.

In the old gyroscope, shown in figure 1, the steering mark was a movable point; the gyroscope was put into operation and the pointer turned in the direction of the desired course. In the new form a great improvement has been made by the use of a patented appliance, which

changes the instrument into a combination of the gyroscope and the compass. With the assistance of electromagnets it acts like an ordinary compass, but the current can be switched off from the electromagnets, which transforms the apparatus into a gyroscope without magnetic functions. By this method the disadvantages described in paragraph 1 are removed, as the system, with the rose, is set to the desired course by this appliance before the gyroscope operates as such.

The disadvantages described in paragraph 2 can not be completely removed, as they lie in the nature of the appliance. The avoidance of errors arising from them is principally a question of care in construc-

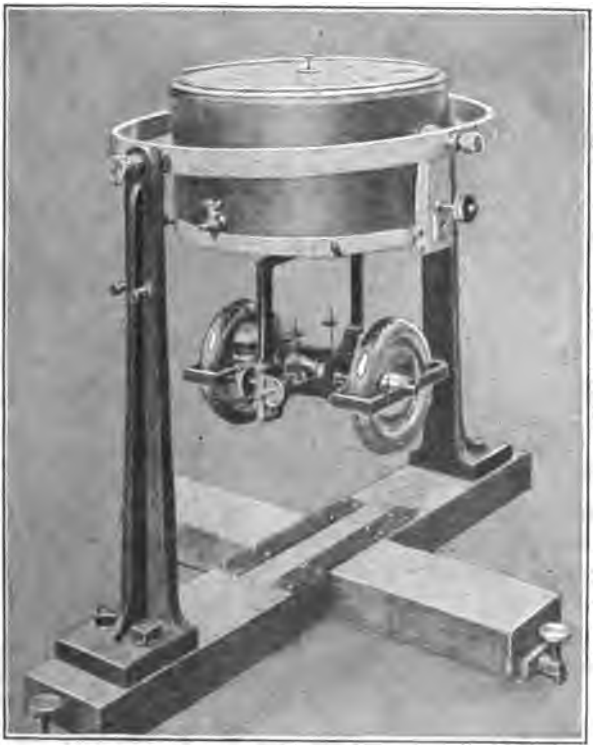


FIG. 1.—The gyroscope, old model.

tion and exactitude of setting. How far this has been attained in the present apparatus may be judged by the following description of the results of tests made in the German navy.

The tests undertaken at the instance of the Imperial German navy department, on board the German warship *Undine*, with the apparatus shown in figure 1, lasted two days, and were made with a view to determining with what accuracy the instrument shows alterations in the ship's course, whether the deficiencies mentioned in paragraph 3 had been corrected, how far the disadvantages noted in paragraph 2 had been overcome, and also how the gyroscope would sustain violent concussion.

On the first day of the trial the ship described a large number of curves with the purpose of ascertaining whether the instrument would deviate from its original position and whether it would accurately show the angles of alteration in direction. The result of these experiments was that, with the assistance of carefully placed controlling buoys, no error was detected in the operation of the gyroscope. On the contrary, several small errors in the position of the buoys were discovered by means of the gyroscope. From these trials, which lasted several hours, it was seen that the course of a ship could be controlled and differences remarked by means of the gyroscope at least as well as with buoys or other water marks, even when the latter are placed as accurately as possible.

On the same day a number of maneuvers were executed with the machinery and with the big guns in order to ascertain the effect of concussion and vibration. These movements consisted of sailing at forced draft and then suddenly reversing the engines, and of firing shots from the heaviest guns and in such a position that the gyroscope received the heaviest shock, so that the severest possible concussions were brought to bear upon the instrument. By these experiments it was shown that the greatest vibration and concussion that could occur on a vessel of the *Undine* type had no effect whatever on the apparatus.

On the following day the gyroscope was carefully set with the assistance of a series of buoys, and for four hours the most eccentric course was followed. By means of intermediate buoys and a set destination it was proposed to discover any possible errors in the indications of the apparatus during the time of trial. At the end of this trial, after four hours of the most severe test, no error could be discovered, proving that the gyroscope was at least as accurate as the most carefully placed buoys. It is therefore presumable that, under less favorable circumstances and in a longer period, say eight hours, no appreciable error could occur which would render the apparatus unreliable.

A comparison of the gyroscope with the amplitude compass was then made. Upon comparison with an accurate deviation table, errors up to 1.5° were discovered, apparently attributable to the gyroscope. The test which was immediately applied showed, however, that this was not the case, but that the coefficients of deviation had altered, presumably on account of the previous severe vibration and concussion. It was therefore possible, by means of the gyroscope, to discover errors in the compass.

The result of these tests was therefore the acknowledgment by disinterested parties of the truth of the claims made on behalf of the apparatus—that no inaccuracy occurs in the instrument on account of the earth's rotation, that the angles of changes of course are shown with the greatest exactitude, and that shocks or vibration which would render a compass inaccurate, or even useless, have no effect on the gyroscope. It was further proved that the apparatus is thoroughly

reliable and that for an unbroken period of eight hours no appreciable error can occur in the working of the apparatus.

A Kiel firm has manufactured a special apparatus for marine use, founded upon the invention of Doctor Anschütz-Kämpfe and the experience gained during the tests. The apparatus used in the foregoing tests is shown in figure 1 and the later model in figure 2.

All the important parts can be recognized in figure 1, as the lower cover has been removed. The two strong iron bases of the binnacle carry a holder suspended in gimbals and filled with liquid. In this

FIG. 2.—The gyroscope, new model.

liquid is a float fixed to a vertical axle on which it can revolve. The rose, which can be seen in the diagram, is attached to the float and is controlled by the attached system. The system consists of two balls which are driven by a motor lying between them, the current being communicated by means of brushes. The frame containing the balls and motor is attached to a horizontal axle, on ball bearings which, in the drawing, lies near the connecting line between the two bases. These ball bearings rest on the float. To give an idea of the size of

this apparatus, it may be mentioned that the diameter of the holder is 47 centimeters (18.5 inches) and the height of the whole is 89 centimeters (35 inches).

The new model differs from the old, in construction, chiefly in that the system does not rest upon the float, but is contained within the float. This float has a capacity of about 22 liters, and also contains the electromagnets already mentioned. It revolves easily on a vertical axle in the basin seen in the diagram, and its weight on the axle is almost compensated by the liquid in which it rests. The basin is hung in gimbals to a strong ring, which ring rests on springs attached to the stand. The latter is three-legged and is made of bronze. Between the three legs is a small marble table which contains the measuring instruments, ruler, etc. The apparatus is 110 centimeters (43.3 inches) high, the diameter of the basin is 35 centimeters (13.8 inches), and the largest diameter is 60 centimeters (23.6 inches).

Special attention is called to an apparatus which may be seen upon removal of the lower cover of the basin. This is a small motor with a perpendicular axle, upon which a bell-shaped balance is placed. This latter, as well as the small collector and brush holder, are visible in the illustration. This motor is started simultaneously with the system and attains a velocity of 3,000 revolutions per minute. Its purpose is to retain the basin in a perpendicular position, by means of its rotary force, or at least to permit only slow and slight movements. By this means the efficiency of the instrument is considerably increased. When the electromagnets are in use, no movable pointer is used, as in the old apparatus, but a fixed guide line.

In both instruments the gyroscopic system rotates at the rate of 3,000 revolutions per minute.

From the foregoing it is seen that the gyroscope is capable of replacing the compass when the latter is unreliable. The cases in which its use is advantageous are summarized as follows:

(1) In submarine boats, where the compass has been found unreliable in consequence of the closely situated masses of iron.

(2) During fighting or gun practice, when the concussion renders the compasses in the turrets and on the bridge useless.

(3) To determine the deviation of the compass an apparatus is being made with which it will be possible to record and automatically register the deviation of the compass without the use of guiding buoys.

For all the above purposes it will be seen that the period of eight hours is more than sufficient, and during this time, at least, the gyroscope is reliable, as was proved by the experiments.

Further trials will be made in Kiel with the new apparatus, on board a ship chartered by the inventor, to which all interested parties are invited.

WM. F. WRIGHT, *Consul-General.*

MUNICH, GERMANY, *April 8, 1905.*

ORANGE WINE—A CORRECTION.

M. J. Vilbouchevitch, publisher of the Journal d'Agriculture Tropicale, Paris, has written to the Department relative to an article entitled "Orange wine," which appeared in Daily Consular Reports No. 2080, October 13, 1904, calling attention to two errors therein and asking that a correction be inserted in the Reports.

The article referred to was translated from the Boletin Quincenal de la Camara de Comercio de la Asuncion, Paraguay, of June 20, 1904. It stated that "brewer's yeast" should be added to the orange juice; it should be "maltopeptone." Instead of 2 ounces of a mixture of ammonium phosphate, etc., 23 grains should be added.

WINDOW GLASS BY MACHINERY.

Under date of April 28, 1905, United States Consul Roosevelt, Brussels, Belgium, transmits the following copy of an article from the London Daily Mail of April 26, relative to the manufacture of window glass in Belgium by machinery invented by Emile Fourcault, honorary engineer of the mines at Lodelinsart, near Charleroi:

The Fourcault machine turns out continuously sheets of glass 39½ inches wide, of any desired length and of a uniform thickness, varying from one-fifteenth to five-sixteenths of an inch. This glass can be obtained as rough glass for making extra thin glass, as horticultural glass, and as windowglass for certain export markets.

The machine is described as a box of fire-brick material floating on a "springing fountain" of glass. In the bottom of this box is a slit called the stretcher, and through this stretcher a sheet of plate glass is introduced into the molten mass. The molten glass adheres to this plate. When the plate is pulled up vertically it is followed by a mass of melted material that wells up without effort. Once started, the molten glass continues to flow out in a sheet without the plate being dipped in the stretcher again.

The "springing fountain" in which the stretcher floats is a kind of pit, the walls of which are heated by the heat of the glass, and on the top of the pit is an apparatus for dragging the glass up and for annealing. This apparatus is simply a chimney to draw off the heat, in which there are about 17 pairs of rollers. The glass is lifted through these rollers by adhesion, and by the time it reaches the top of the chimney it is sufficiently cool to be cut with a diamond into desired lengths while still attached to the machine.

The operation of annealing—depriving glass of brittleness by allowing it to cool slowly—is at once difficult and capricious. The greatest importance of annealing in all branches of window-glass making lay in the fact that the plastic glass had to be manipulated by tools which were colder than the glass. It was and is by the older method a very delicate operation. The Fourcault machine does away with all this. Annealing is no more a necessity. The glass coming out from the

"delivery box" cools and congeals gradually, and at a certain point has lost its heat. It is then that it comes in contact with the first lifting rollers, which are at the same temperature as the glass itself. Hence the glass appears at the top of the chimney perfectly flat, and possesses unequaled brightness on both sides.

As the Fourcault machine is particularly recommended for its simplicity and for the saving of time and material which it effects, it will no doubt become of great importance to glass manufacturers.

LIVE STOCK IN PRUSSIA.

(From United States Consul Hannah, Magdeburg, Germany.)

In the five censuses of live stock of 1873, 1883, 1892, 1900, and 1904, of which the first two were taken January 10, at the time of year when the number is lowest, and the three others on December 1, when it is medium, the live stock in the kingdom of Prussia was as follows:

Number of farm animals in Prussia in 1873, 1883, 1892, 1900, and 1904.

Live stock.	1873.	1883.	1892.	1900.	1904.
Horses	2,282,435	2,417,367	2,653,661	2,923,627	2,963,155
Cattle	8,639,514	8,737,641	9,871,521	10,876,972	11,143,753
Sheep	19,666,794	14,752,328	10,109,594	7,001,518	5,654,273
Hogs	4,294,926	5,819,136	7,725,601	10,966,921	12,540,498
Goats	1,481,461	1,680,686	1,954,130	2,051,560	2,110,612

Increase and decrease in number of farm animals in Prussia, 1873 to 1904.

Live stock.	Increase and decrease from—				
	1873 to 1883.	1883 to 1892.	1892 to 1900.	1900 to 1904.	1873 to 1904.
Horses	+ 134,932	+ 236,294	+ 269,966	+ 39,528	+ 680,720
Cattle	+ 98,127	+1,132,880	+1,005,451	+ 266,788	+ 2,504,239
Sheep	−4,914,466	−4,642,734	−3,108,476	−1,347,245	−14,012,521
Hogs	+1,524,210	+1,906,465	+3,241,320	+1,573,577	+ 8,245,572
Goats	+ 199,255	+ 283,444	+ 87,430	+ 59,052	+ 629,151

In the first four years of the twentieth century the number of horses increased only one seventy-fifth, the cattle one forty-first, the hogs one-seventh, and the goats one thirty-fifth. The decrease in sheep was one-fifth. From January 10, 1873, to December 1, 1904, the horses and cattle increased more than one-fourth and of goats more than two-fifths, and the number of hogs almost doubled, while the sheep decreased over two-thirds. Therefore, in this time, embracing an entire generation, animal raising in general made great progress, and this decrease appears not yet to have reached its end. Comparing the census of 1873 with that of 1904, the percentage of increase was: Horses, 29.82; cattle, 28.99; hogs, 191.98; goats, 42.47. The number of sheep decreased 71.25 per cent.

FRANK S. HANNAH, *Consul.*

MAGDEBURG, GERMANY, *April 11, 1905.*

EXPORTS OF CIGARS FROM CUBA.

(From United States Consul-General Guenther, Frankfort, Germany.)

Since April 1, 1904, the statistical bureau at Habana has published monthly statements of the exports of cigars, which shows the name of the manufacturers and the destination of the product.

According to these data the exports during the last nine months of 1904 were as follows:

Exports of cigars from Cuba during the nine months ended December 31, 1904.

Whither exported.	Exported by trust factories.	Exported by independent factories.
	Number.	*Number.*
England	33,740,000	32,801,000
United States	28,446,000	16,976,000
Germany	11,562,000	12,525,000
Canada	2,580,000	2,540,000
All other countries	10,348,000	17,242,000
Total	86,626,000	82,084,000

These figures show that 51.3 per cent of the total exports came from the trust factories and 48.7 per cent from the independent concerns. When the trust was formed the trust factories supplied about 75 per cent—according to the statement of the trust itself, 85 per cent—of the total exports. It is therefore evident that the trust, up to December 31, 1904, has lost at least 30 per cent—more than 50,000,000 cigars—in trade. The Frankfurter Zeitung says that while the exports of the independent factories to the United States are not very great, it should be borne in mind that the trust, in consequence of its almost complete monopoly of the trade in cigars, cigarettes, and smoking and chewing tobacco, exerted great pressure upon American importers and dealers, and, besides, shipped several millions of so-called reciprocity cigars and cigars of very low grade. If these millions of trust cigars had been deducted, the showing of last year would have been in favor of the independent factories. From all appearances the attempted monopolization of the cigar trade of Habana i not a success.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *April 13, 1905.*

GERMAN CLEARING-HOUSE ASSOCIATIONS.

(From United States Consul Harris, Mannheim, Germany.)

The gradual adoption of the clearing-house system by German bankers marks an advance in a branch of business long noted for its conservatism. Though the clearing-house method has been in use in London since 1775 and in the United States for more than half a cen-

tury, its introduction into Germany is but recent. Twelve German cities now have clearing-house associations, against almost or quite 100 such associations in the United States. Other German cities, including Mannheim, are planning to form similar organizations.

In view of the fact that personal checks are scarcely known in Germany in ordinary daily business transactions, the need of clearing houses has been less felt than under the American or English systems. How far the use of checks in payment of private debts and in other daily transactions will become popular under the stimulus of a clearing-house system remains to be seen. Slight inroads in Berlin and elsewhere have already been made on the German practice of closing banking houses from two to three hours at midday, with the necessarily prolonged hours later in the day. That the adoption of American banking hours would be gratifying to many German bankers is frequently stated, and it will doubtless gradually come about.

H. W. HARRIS, *Consul.*

MANNHEIM, GERMANY, *April 10, 1905.*

PHOTOGRAPHING THE SUN'S HALO.

Under date of April 2, 1905, United States Consul E. Theophilus Liefeld, Freiburg, Germany, transmits the following clipping from the London Daily Mail of April 1, 1905:

To obtain a photograph of the solar corona without having to wait for the occurrence of a total eclipse of the sun would be an astronomical discovery of the first rank, writes a distinguished scientist, and for this reason a great number of attempts have been made. On several occasions the problem has been considered solved, but further investigation has shown that the image obtained was not that of the actual corona. So great have been the improvements in photographic processes and in the making of colored screens that it seemed quite possible that the object would soon be attained. It is now announced that Doctor Hausky, of the Odessa Observatory, in Russia, has succeeded in obtaining such pictures from the summit of Mont Blanc, and no less an authority than the veteran French astronomer, M. Janssen, who has seen the negatives, seems to be convinced that the actual corona has been photographed.

Doctor Hausky employed particular colored screens, through which he allowed the sunlight to pass before the image fell on the photographic plate. The negative thus obtained showed a nearly uniform halo around the solar disk. From this negative he produced a series of positives and negatives alternately, and treating them in a special manner he was able to produce the form and different degrees of intensity of the corona itself. The same form was constantly produced in spite of changes in the position of the screens.

Before, however, the problem can be considered solved it will be well to wait until the most crucial test can be applied, namely, that of photographing the sun by this means before or after a total eclipse, and then comparing the results with a picture taken during the eclipse

with an ordinary camera. The test is a simple one, and the approaching eclipse of August 30 will present an early opportunity for carrying it out. Fortunately, the track of totality passes over some high mountains in the northern part of Spain, so that a high altitude is available.

OPENING FOR SURGICAL AND HOSPITAL SUPPLIES IN MEXICO.

(Extract from the annual report for 1904 of United States Consul A. J. Lespinasse, Tuxpam, Mexico.)

There is an excellent field throughout this Republic for the introduction of modern surgical instruments and appliances and the multitude of supplies employed in modern hospitals. If Mexico were thoroughly and intelligently canvassed by painstaking representatives of houses in the United States which are engaged in these lines, important orders would undoubtedly be secured. The medical profession in Mexico is represented by a body of men who stand as high as similar bodies in countries where medicine and surgery are more progressive, and it is therefore important that persons commissioned to secure patronage from physicians and surgeons in this country should bear in mind that their intercourse will be with refined men of high mental and social standing; consequently the abrupt hustling methods which seem to predominate among our salesmen when canvassing the Mexican trade must be suppressed and a more dignified and persuasive demeanor adopted, otherwise the salesmen will receive scant recognition, and will waste their time and injure their employers' reputations. If these rules are strictly adhered to and Spanish-speaking representatives are sent to Mexico, it can be confidently asserted that an extensive market for surgical and hospital supplies will be opened up in this country.

As a rule, all scientific instruments or apparatus employed by surgeons, engineers, naturalists, and chemists are exempt from duty, including such instruments as aerometers, thermometers, and barometers, when exclusively employed for scientific or medical purposes. If attached to adornments or furniture, such articles will be dutiable according to the classification of the article to which they are attached.

EUROPEAN COMPETITION FOR MEXICAN TRADE.

(From United States Consul-General Guenther, Frankfort, Germany.)

British consuls in Mexico, in their official reports, complain that British trade with that Republic is being won by Germany and the United States. The reports regret the absence of English newspapers in Mexico, the neglect of British firms to advertise in Mexican journals, the inability of British commercial travelers to speak Spanish, dan many other disadvantages under which English competition is

suffering in Mexico. British interested parties, in order to promote trade between the two countries, have appealed to the Mexican Government for assistance. In compliance with their wishes a commercial bureau has been attached to the Mexican legation in London, where Mexican books, maps, journals, samples, and designs are to be placed for purposes of reference and study, whereby the export trade to Mexico may be stimulated.

A prominent journal of the German export trade comments upon this in these words:

We do not grudge the English this Mexican bureau of commerce at London, but can not see why an institution of that sort is not established in Berlin as well. Surely the Mexican Government can not intend to give a preference to British trade. It should place all nations on an equal footing.

The commercial nations of Europe are now fully aware of the growing importance of Mexico, and are making strong efforts to increase their trade with that prosperous country; hence competition will be lively in the Mexican markets. Within the last few years quite a change has occurred in the minds of European capitalistic and commercial circles concerning Mexico's credit and capacity. To-day Mexican securities form popular investments in Europe, not only with the big "rentier," but also for the small savings of the farmer, professional man, clerk, and mechanic.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *April 10, 1905.*

FURNITURE IN TUXPAM, MEXICO.

(Extract from the annual report for 1904 of United States Consul A. J. Lespinasse, Tuxpam, Mexico.)

Very few attempts have been made to develop the opportunities awaiting manufacturers to supply the demand which exists here and in the surrounding country for a medium grade of light, well-made, but not expensive furniture, which will not be affected by climatic conditions.

Rattan and willow ware would meet with most favor, but cottage furniture in light shades and attractive models would be very popular. Occasionally odd pieces of this class of furniture which have found their way here "accidentally" have been eagerly snatched up, leading to the belief that if ordinary efforts were made to introduce other designs the results would be very satisfactory. The cost here greatly exceeds prices ruling in the United States, but this may be attributed to methods employed by dealers who are under the mistaken impression that they must add enormous profits to repay them for the time they will have to carry the furniture, thus defeating the very object

they have in view, whereas if they would be satisfied with a reasonable profit and induce more people to buy their increased sales would more than make up for the smaller profit obtained. Intelligent, active, Spanish-speaking salesmen could accomplish much in removing these antiquated ideas and could create a substantial demand for cabinet ware of all kinds. Furniture made by carpenters here is lacking in artistic design, and is very crude and unsatisfactory, as it is made by inexperienced workers who have only the roughest kind of materials to work with. It is, of course, all handmade.

FIRELESS COOK STOVES.

On receipt of the Daily Consular Reports for April 14, 1905 (No. 2232), which contained a report from United States Consular Clerk George H. Murphy, of Frankfort, Germany, on "Fireless cook stoves," the Commissary-General of the War Department sent an instruction to the post commissary at Fort Riley, Kans., to have experiments made in the school for bakers at that post to ascertain how far the claims put forward in Mr. Murphy's report could be practically sustained. The result will be seen in the following correspondence transmitted from the office of the Commissary-General, War Department, to the Chief of the Bureau of Statistics, Department of Commerce and Labor, under date of May 18, 1905:

The Commissary-General to Captain Murray.

WAR DEPARTMENT,
OFFICE OF THE COMMISSARY-GENERAL,
Washington, April 18, 1905.

Capt. M. S. MURRAY,
Post Commissary and in charge of
School for Bakers, Fort Riley, Kans.

CAPTAIN: By direction of the Commissary-General I have the honor to inclose herewith Daily Consular Report No. 2232 and to invite your attention to the article contained therein on "Fireless cook stoves." It is requested that you read this article carefully and have a small box constructed about in the manner described in this article, and then make experiments with cooking and report the results obtained. If the box should prove effective it is thought that it might be extremely useful in the field, as food could be cooked for a short time before breaking camp and then placed in one of these hay boxes, and at the end of the day's march be ready for consumption. The expense of preparing one of these boxes for a company would be slight, but if the scheme is practicable it would be of inestimable value in the field, not only in the saving of fuel, but in affording means for properly serving meals to troops upon reaching camp.

It is requested that you give this matter a thorough test, and if you find it successful that you make a report thereon, with such recommendations as you deem proper. The matter is sent to you for inves-

tigation because of your knowledge of cooking, and also because of the intention to shortly start a school for cooks at your post. It is possible that there is no practical advantage to be derived from the use of these hay boxes, but the report would indicate that not only at a post, but also in the field it would be extremely advantageous to have it adopted in the service.

Very respectfully, HENRY G. SHARPE,
Colonel, Assistant to the Commissary-General,
U. S. Army.

Captain Murray to the Commissary-General.

TRAINING SCHOOL FOR BAKERS AND COOKS,
Fort Riley, Kans., May 11, 1905.

The COMMISSARY-GENERAL,
U. S. Army, Washington, D. C.

SIR: In compliance with your letter of April 18, 1905, I have the honor to inform you that I have made experiments with the "fireless cooking," with the following results:

May 6.—One-half pound rice, one-half pound hominy, and 1 pound beans. Rice and hominy were placed in lard cans, beans in mess pan. All were boiled for five minutes, then put in the hay box two hours and fifteen minutes. Rice was taken out perfectly done. Hominy and beans not done, but were removed from the hay box. I attribute the failure with the hominy and beans to the tin and sheet-iron vessels in which the test was made. I decided to make further tests with earthen pots or jars.

May 10.—I made an Irish stew and also made a test with macaroni. At end of two hours the stew was thoroughly done and served on the table. The macaroni at the end of one hour and thirty minutes was removed. It was a trifle overdone, but palatable; also served on table.

The Irish stew was made of fresh meat, potatoes, and onions. Meat and potatoes were cut into about one-half to 1½-inch cubes. Onions were smothered in bacon grease before being added to meat and potatoes, which proved to have given an excellent flavor to the stew. Boiled six minutes, then placed in hay box. At end of two hours removed from hay box and served on table, thoroughly done and very palatable.

May 11.—Macaroni with tomatoes, boiled five minutes. At end of one hour and ten minutes in hay box it was as perfectly cooked and as palatable—in fact, I would say better—than when cooked on stove. It will be observed that I reduced the time of macaroni twenty minutes to-day and obtained the exact time to remove it from box. Beans were soaked over night, water strained off in the morning. Beans were then placed in jar with necessary bacon and season, boiled six minutes, and put in box. At end of two hours they were removed from box thoroughly done and served on table of bakers' mess.

All the foregoing cooking and testing was done by myself personally. Before submitting a more complete report and recommendation I intend to devise a table showing a systematic process of preparing the food, as well as a standard box, for a company, which could be placed in an escort wagon for field service or garrison use. I have

requested the purchasing commissary at Kansas City to send me some powdered cork and corrugated paper, which I believe will prove very effective, owing to their nonconductive property, the cork especially. I will continue, however, to make tests with the hay, as it is far cheaper and can be easily obtained at any place. Reports will be forwarded from time to time.

Very respectfully,

M. S. MURRAY,
Captain, Commissary, U. S. Army.

SIMPLON TUNNEL.

(From United States Consul Brush, Milan, Italy.)

The boring of the Simplon tunnel, the largest tunnel in the world, was completed on Friday, February 24. So many notes have been sent from this consulate referring to the progress of this great engineering project that a summary is all that now seems desirable.

The Simplon is the fourth of the great Alpine tunnels, and the second between Switzerland and Italy. It was commenced in August, 1898, and was built by the Swiss and Italian Governments. The total cost up to December 31, 1904 (the latest date for which statistics are available), was 69,000,000 francs ($13,317,000).

The total length of this great tunnel from the point where it enters the solid rock on the one side to the point of issue on the other is exactly 12 miles and 458 yards, of which a little over 7 miles is in Italian territory. The St. Gothard tunnel is 9 miles and 564 yards long, the Mont Cenis a few yards short of 8 miles, and the Arlberg tunnel 6 miles and 404 yards. All these tunnels have double railway tracks and their measurements are, height 7 yards, and width 9 yards. Although the Simplon tunnel is so much longer than either the St. Gothard or the Mont Cenis, it was completed in six and a half years, while it took eight years to construct the St. Gothard and twelve years for the Mont Cenis. The difference in favor of the Simplon was due almost entirely to the improved rotating drills now used in tunnel construction.

The motive power was furnished by the rivers Rhone and Diveria, which supplied a force of 6,000 horsepower at each end of the tunnel. Electric power will undoubtedly be used in the operation of the tunnel.

Many serious engineering problems were encountered, but all were successfully overcome, although at one time operations were practically suspended. The temperature inside is said to have reached 135° F., but by ingenious methods it was kept below 77°. Sprays of glacial water, filtered before being employed, and relays of fresh air passed through cold sprays of water and dried by wire-gauze screens before reaching the laborers, made work in the heart of the tunnel possible.

The foul air was exhausted by huge fans. Horses and mules were banished from the galleries at an early date, as it was found that the exhalations from their bodies in the hot air vitiated the atmosphere. The great length of the tunnel made it necessary to provide 65,000 cubic feet of air per minute. It was at once recognized that it would be impossible to place in the tunnel pipes of sufficient size to provide this enormous volume of fresh air. It was finally decided to build twin single-track tunnels 58 feet apart and connect them with transverse galleries placed at every 220 yards. For a distance of 400 yards at the middle of the tunnel these twin tunnels become one, in order to provide room for sidings and a small station.

The engineers believed that the twin tunnels would act as ventilating shafts, each for the other. This idea proved correct, and in addition the twin tunnels provided an endless chain for the 500 wagons that were kept in constant circulation night and day in both tunnels for the discharge of the 7,000 cubic feet of rubbish that the drills provided almost daily. With a single tunnel the removal of this enormous amount of débris, working within such narrow quarters, would have been a serious matter.

A feature that gave great uneasiness was the uncovering of inexhaustible subterraneous springs of high temperature. In August last the outflow of water from the southern part of the tunnel was 14,000 gallons per minute.

Near the largest spring a bed of rock on the roof of the tunnel, about 500 yards in length, commenced to move and threatened to fall into and block up the tunnel. The pressure was so tremendous that none of the means of support ordinarily employed were sufficient to resist the moving mass. Tree trunks of the largest girth which were placed to support the roof were snapped like matchwood and finally solid steel rafters had to be employed, and many of these were bent and twisted out of shape. At this period the rate of progress was only 10 inches a day and the work extremely dangerous to all concerned. After months of toil the difficulties were overcome. At the same time the rock suddenly became solid and the usual rate of progress became possible.

Several thousand men were employed continuously, working day and night in eight-hour shifts, year in and year out. Great care was exercised, however, and notwithstanding the hazardous nature of the work the fatalities to date, in six and one-half years and with thousands of men employed, number but 85. Two deaths of the 85 took place on the day following the piercing of the tunnel. A train load of engineers started on a tour of inspection, but through the temporary failure of the ventilating apparatus the train was obliged to return soon after entering the tunnel. A number of engineers were overcome and two cases resulted fatally.

With the completion of the boring the work of equipping the tunnels for traffic will be a matter of but a few months. The lining must be finished, the permanent way built, and the signaling apparatus installed.

With the opening of the St. Gothard tunnel, Germany gained a great advantage over France in trade with Italy, but the new Simplon will give a direct route north from Milan to Paris and Calais, and the trade of central Europe as well will receive a great stimulus. On the other hand, it is thought that in seagoing traffic Genoa will benefit at the expense of Marseille.

SIMPLON TUNNEL EXPOSITION IN MILAN.

The principal objective point of both the Simplon and the St. Gothard tunnel is Milan, the commercial center of Italy, and for two years past plans have been underway for the celebration of the completion of the new tunnel by means of an exposition. The exposition is given under the patronage of the King, who makes a personal contribution of 100,000 lire ($19,300).

The Government has voted 500,000 lire ($96,500), together with valuable concessions and numerous awards. The city of Milan and private subscriptions provide 4,000,000 lire ($772,000). It has been decided to give special prominence to transportation and the fine arts, and it is believed that by centralizing on these two principal lines every purpose of the exposition will be fulfilled and far more satisfactory results achieved.

The exposition will open in April, 1906, and continue until November. Transportation exhibits are open to all countries, but the fine arts exhibits will be purely Italian. American manufacturers of anything that can be included under the general head of transportation, from wheelbarrows and hoists to traveling cranes and electric locomotives, should give the exposition early attention.

HARLAN W. BRUSH, *Consul.*

MILAN, ITALY, *March 9, 1905.*

LABOR ON THE ISTHMUS OF PANAMA.

(From United States Minister Barrett, Panama City, Panama.)

No American white laborers should come to the Isthmus of Panama seeking employment unless previously engaged by the Commission. At first, before the organization here was fully completed and civil-service methods were applied, work could usually be found for able-bodied white laborers who might arrive here from the United States or from any other part of the world. Now, however, the situation is changed. Whenever any department of the Commission on the Isth-

mus desires additional white or skilled labor it communicates with the central office in Washington, and the men are employed there and dispatched by the first steamer following; but even upon their arrival there is sometimes a delay in putting them to work, because the conditions may not be adjusted. When laborers come of their own accord the chances are against their employment.

The result is that a majority of such men find themselves, after a short stay on the Isthmus, without funds or work. If it were possible for them to do manual labor in the sun like the Jamaicans, at corresponding wages, there would be plenty for them to do, but they can not stand that class of work. Finding themselves in these straits, they come to the legation and the consulates, and, not knowing that there are no funds provided by the United States for the care of indigent or stranded Americans, expect the minister and consuls here to provide them with food and lodging until they can get employment, or to give them passage back to the United States. It is often difficult to persuade them that the minister and consuls are not responsible for their condition. The minister has frequently assisted, and is now assisting, men in these straitened circumstances, but of course a limit must be placed on such charity.

When questioned, these laborers say they gained the impression from the papers that there was abundance of work at high wages here for everybody, and in most instances they gave up fairly good employment in the United States in order to take chances of doing better here. A remarkable feature of this situation is that these men come from all parts of the United States. The last steamer brought laborers, on their own account, from Maine, New York, Tennessee, Illinois, Colorado, and California, and they have all been obliged either to go without employment or to take work in competition with Jamaican and other colored labor, which they will not be able to endure for any length of time.

In a report submitted last year I gave a warning of the same nature as this one, but the effect of it now seems lost. It would therefore seem wise that it be given as wide publicity as possible.

JOHN BARRETT, *Minister.*

PANAMA CITY, PANAMA, *April 24, 1905.*

PAPER MILLS FOR CHINA.

(From United States Consul Anderson, Amoy, China.)

In a report from Hangchau in January, I called attention to the amount of paper China was importing, and the prices it has been paying for paper of native manufacture, and noted that, in some cases at least, these prices were higher than those for which paper of as good grades could be furnished from the United States. In line with my

report and bearing upon the paper situation in the Empire the American Asiatic Commerce, of Tokyo, in its current number, says:

Mr. Pang Yuen-tsi, director of a paper mill to be shortly established at Shanghai by the Chinese Government, has been staying in Japan for some time past. A contract for the engagement of engineers, drawing up of building designs, etc., was recently signed between Mr. Pang and Mr. Umeshiro Suzuki, of the Ōji paper mill. It is also stated that Mr. Jusuke Horikoshi, who has been recommended as engineer by Mr. Suzuki, had already left for Shanghai a few days ago. The initial expenses of the undertaking will be about 650,000 yen [$323,700], but the Chinese authorities intend to carry on the business on the largest possible scale. The different provincial authorities of China are also considering similar schemes. For instance, Kiangsi has dispatched Mr. Hwang Toh to the Ōji paper mill, where he is studying the details of the industry.

While, therefore, China is going into modern paper manufacture for itself, and its course shows that it has an appreciation of the situation as I described it, I think that American paper manufacturers should not neglect the Chinese field for American paper trade. It will be a long time before Chinese paper factories will be developed to a point where they can make paper as cheaply and as satisfactorily as American manufacturers. Besides, the demand for paper in China is likely to increase much more rapidly than modern paper manufacture.

GEORGE E. ANDERSON, *Consul.*

AMOY, CHINA, *March 3, 1905.*

AMERICAN PHYSICIANS AND DENTISTS IN THE TRANSVAAL.

(From United States Consul Proffit, Pretoria, Transvaal.)

American physicians and dentists may be interested in knowing that under the existing laws in the Transvaal they would find it impossible to practice their professions here without first obtaining a certificate of registration, and that such a certificate can not be obtained unless the applicant possesses British qualifications.

A pertinent excerpt from the ordinance is quoted below:

No such registration certificate as aforesaid shall be granted to any applicant to practice as a medical practitioner or dentist by virtue of the degree, diploma, or certificate of a foreign or colonial university or medical school unless it be proved to the satisfaction of the council (1) that said degree or diploma entitles the holder to practice as a medical practitioner or dentist, as the case may be, in the country or State in which it was granted; (2) that by the laws of the country in which such degree or diploma was conferred, British subjects legally qualified to practice as medical practitioners or dentists in Great Britain and Ireland are afforded privileges equivalent to those granted by registration under this ordinance; (3) that the curriculum and standard of proficiency required for such degree, diploma, or certificate are

not lower than those prescribed by the general council of medical education of the United Kingdom; provided always, that anything to the contrary notwithstanding in this or any other section of this ordinance contained, any person who shall have been in actual practice as a dentist in the Transvaal prior to the taking effect of proclamation No. 1 of 1902, and who was qualified to practice as such dentist under the laws in force prior to such date as aforesaid, shall be entitled to a certificate of registration and to have his name entered on the register referred to in this ordinance.

As the law makes no provisions for examinations, American college and university graduates, it will be observed, are shut out from this fruitful field. It would seem, at first glance, that certain of our medical and dental graduates might gain registration under section 2, above quoted, but such is not the case, for the reason that the various States regulate for themselves the matter of the qualifications of medical and dental practitioners, and the treaty-making power resting in the Federal Government reciprocal relations with other nations can not be established. Until such time, therefore, as the Federal Government may see fit to cooperate with the various States in establishing a uniform system by which the qualifications of physicians and dentists may be fixed, American college and university graduates, possessing only American qualifications, must regard the present law in the Transvaal as a wall which it is impossible for them to surmount.

Several qualified American medical and dental men recently made the mistake of coming to the Transvaal intending to establish themselves here in the practice of their professions, only to find out that the law was prohibitive.

JOSEPH E. PROFFIT, *Consul.*

PRETORIA, TRANSVAAL, *March 10, 1905.*

LANCASHIRE COTTON TRADE.

(From United States Consul Hamm, Hull, England.)

The following account of the condition of the cotton trade in Lancashire is taken from the Leeds Yorkshire Post of March 31:

The first quarter of 1905 has been unparalleled in the history of the cotton trade. Order lists, which, both in spinning and weaving, were at the beginning of the year of unprecedented dimensions, have been considerably extended, until it may be truthfully said that the like has never been known. The sober fact is that both spinners and manufacturers are enjoying a period of great prosperity.

Business of late in cloth and yarn has tapered off distinctly, the Manchester market having, say, during the past fortnight, become decidedly quieter than for some time back. Howbeit, order lists are healthy and handsome profits are assured for many months to come.

In American cotton the outstanding feature is the fact, officially announced this week, that the cotton ginned has reached the enormous total of 13,597,782 bales, against 10,014,454 bales last season and

10,784,473 bales in 1902–3. But the question which now agitates the trade is, How much of this is to be the "commercial crop?" Many question whether anything like 12 millions will be brought into sight. There is growing consumption in almost all parts of the world, and this factor is being manipulated for all it is worth. Strong holding back in the South continues, latest advices on this point being very "bullish." However, the planters may be forced by natural circumstances to allow their cotton to come forward freely. Meantime Lancashire spinners are fairly well "covered" in the raw material one way or another. There has been a gradual hardening in values since the beginning of the year. In January we were in the threepences, touching fourpence early in February. In March there has been fluctuation from 4.39d. [8.9 cents] to 4.10d. [8.3 cents], and now we stand at about 4¼d. [8½ cents].

Egyptian cotton has hovered about 7d. [14 cents] for F. G. F. brown descriptions. At the moment we are one-third penny [two-thirds cent] under that figure. There is no new feature, except that receipts of late have shown up more favorably, but the movement is much behind that at the same time last year, which, of course, is scarcely surprising, since advices were received some time ago indicating that the crop would probably not exceed 6,000,000 cantars (661,386,700 pounds).

Spinners of home-trade American yarns have had a cheerful three months. Engagements have strengthened and extended, until in many cases orders are on hand for twelve months, a few extend beyond that time, and, generally, we should say, spinners are under contracts until the end of the current year. This applies not only to mule, but also to ring yarns, demand for the latter having been particularly active this past month. Margins have widened of late, but, it may be said, are much narrower than at the opening of the year. Export yarns all round are deeply sold. Time of delivery for some weeks has been the impeding factor in regard to negotiations. Egyptian fine yarns of late have done rather better, but coarse-carded descriptions continue slow and disappointing.

Manufacturers until ten or fourteen days back continued to rejoice in good demand for goods from all parts of the world. Engagements for India, China, and several of the minor outlets are exceedingly heavy. Makers command very long time for new bookings and extremely full prices. The operative weavers have just obtained an advance in wages of 5 per cent, and the comparative ease with which this has been obtained affords striking evidence of the profitable state of the industry. In the home trade things continue unsatisfactory for the time of the year. Country demand is still dragging; here and there are signs that the situation is being gradually improved, though betterment of conditions seems to be exceedingly slow.

Numerous new spinning mills are in course of erection or projected. Not less than 15,000 looms may be expected to be added to our numbers before the end of the year. The bulk of them, indeed, will probably be in full work by October.

If this period of prosperity in the Lancashire cotton trade continues through the year there ought to be a market for the American cotton crop at good prices.

WALTER C. HAMM, *Consul.*

HULL, ENGLAND, *April 4, 1905.*

BICYCLE TERMINOLOGY.

(From United States Consul Halstead, Birmingham, England.)

In no country in the world is standardization in sizes of manufacturers given so much attention as in Great Britain. In the bicycle trade the appreciation of the advantages of uniformity is so great that a proposition for standardization not only in sizes but in nomenclature has been favorably received. At a recent meeting of the Automobile and Cycle Engineers' Institute, Mr. Charles Wheeler, chief engineer of the bicycle department of the British post-office, read a paper advocating a uniform system of naming the various parts of a bicycle, to enable bicycle users to communicate to manufacturers and dealers in an intelligent way their requirements in the way of replacements, etc. Mr. Wheeler endeavored to tabulate a workable system. His proposition will be considered in detail by a committee.

It was thought that the managers of repair departments would appreciate the necessity of something being done in the matter, and would have a receptive attitude toward a reform of this nature, which was thought a proper work for such a society as the institute, and the time ripe for putting it into effect. There seemed to be agreement with Mr. Wheeler's suggestion that the object should be to give brief and suggestive names to all bicycle objects dealt with and that the approved names should be included in all bicycle catalogues issued to the public. As showing the peculiarity of the present system, or rather want of system, "the crossbar," Mr. Wheeler said, "is the most illusive bicycle component. It has in turn done duty for the handle bar, and top, bottom, and seat tubes." It is, he said, in no instance necessary to coin a new name for any part, there being ample good material in current use. All that is required is to separate the wheat from the chaff.

MARSHAL HALSTEAD, *Consul.*

BIRMINGHAM, ENGLAND, *April 3, 1905.*

IRISH EMIGRATION.

(From United States Consul Knabenshue, Belfast, Ireland.)

The annual report for the calendar year 1904 on emigration from Ireland shows that the total number of persons leaving Irish ports was 37,415, a decrease of 3,244 from the number in 1903. There were 17,594 males and 19,821 females who emigrated in 1904, and 83.8 per cent were between the ages of 15 and 35; the percentage over 35 years of age was 7.3, and of children under 15 years 8.9.

The collection of statistics of Irish emigration was begun May 1, 1851, and in the fifty-three years since then the number of emigrants

has been 3,997,913. The highest annual emigration was 190,332, in 1852, and the lowest was 32,241, in 1898. It will be noted that the total for last year was considerably above this minimum. Economic writers deplore this steady drain, especially of persons at the most useful age from an industrial standpoint. It is hoped that the continued operation of the land purchase act will lead to a marked diminution of emigration, but the law has been in operation only eighteen months—not long enough to determine whether such a result will be attained.

S. S. KNABENSHUE, *Consul.*

BELFAST, IRELAND, *April 14, 1905.*

AMERICAN KEROSENE IN CHINA.

(From United States Consul Anderson, Amoy, China.)

The indications are that in the course of the current year the American kerosene trade upon the lower Chinese coast will be advanced considerably. At present this trade is not flourishing, and the representatives of the Standard Oil Company are making strenuous efforts to improve it. While along the upper Chinese coast American oil easily controls the situation, this is far from being the case on the lower coast. Apparently there is no reason why American oil should not have the same success here as it has farther north.

Last year the sales of kerosene imported into Amoy were in the proportion of 460,000 gallons of American oil to 580,000 gallons of Borneo oil in bulk and 1,850,000 gallons of Sumatra oil in bulk, the tendency being toward the elimination of the American product. This situation has been due very largely to the fact that the Borneo and Sumatra oils have been handled in the tank establishments of the Royal Dutch Petroleum Company, while the American product has been handled in tins. American oil generally is of higher grade and costs more to produce than the Sumatra and Borneo oils, but, as a general thing, the Chinese consumers do not discriminate between good and poor oil, at least not to the extent of paying a large difference in price. The great cost of handling oil in tins, especially good grades of oil, has resulted disastrously to the American oil trade.

American oil interests at present are negotiating for a site for a tank installation, and while there has been considerable hesitancy on the part of minor Chinese officials to negotiate to this end the indications are that the site will be secured and that before the year is out American oil interests will be in a fair way to regain lost ground. They will be placed upon a better basis and will be equipped in a way which will enable them to compete on an equality with the Dutch companies, even though the latter handle cheaper grades of oil.

The location of the Dutch tank installation in Amoy is favorable. The Japanese some time ago secured an option on a site on Whale Island, in Amoy Harbor, for a tank installation, but there is little likelihood that they will do anything with it, inasmuch as their oil production so far does not meet the requirements of their home consumption. Russian oil, for the time being, seems to have disappeared from the field in this part of China.

When American tank steamers can pump oil into tanks ashore and oil can then be pumped into small steamers which ascend the rivers and canals hereabout, it is easy to see that oil will be handled much more cheaply than at the present time—tins costing from 50 to 60 cents Mexican. The Chinese have used these kerosene tins in characteristic ways since oil was first sold in them. Buckets, lunch boxes, dustpans, all sorts of tinware of Chinese and foreign style, have been made from them and not the least scrap has been wasted. The tins have a regular market value.

GEORGE E. ANDERSON, *Consul.*

AMOY, CHINA, *March 6, 1905.*

MICA MINING IN INDIA.

(From United States Consul-General Guenther, Frankfort, Germany.)

German newspapers state that mica, which finds many uses in the industries and gets into commerce in big sheets as thin as paper, is obtained on a large scale in southern India, and the manipulation of the raw material there is worthy of description.

The mica is first taken from the mine in baskets to a shed, where the cutting takes place. The foreman selects the best plates and splits them himself with a knife or other instrument into flat pieces not thicker than one-eighth of an inch, which must not show the least spot or cloud. These plates are then marked by women or children, who with a knife or a piece of tin or zinc scratch a rectangle upon them as large as the plate will permit, which men cut out with ordinary garden scissors. These scissors are usually fastened by one end in a wooden block, which is set fast in the ground in such a manner that the cutting surface of the scissors is vertical. The plates of inferior quality are treated in the same manner. The sheets so obtained are finally assorted according to size and quality and put into bundles. The mica works of Nellore produce annually about 150 tons of mica and employ about 2,000 persons.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *March 31, 1905.*

AMERICAN SILVER COINS IN CANADA.

(From United States Consul Dudley, Vancouver, British Columbia.)

During the last few months there has been much agitation in this and other Canadian provinces looking to the discontinuance of the use of American coins in Canada. The Toronto Globe recently referred to this subject in the following words:

The crusade of the Manufacturers' Association against American silver in Canada is not likely to be any more effective than some previous crusades. The only way to succeed is to induce Canadians to refuse the foreign coins, and this they will not do.

To this the Canadian Manufacturer replies as follows:

Why does the Globe object to the crusade against the circulation of American silver coin in Canada or any other crusade in which the association takes interest? They afford some sort of occupation to the embryotic statesmen of the association and a large amount of amusement to the public.

Canada coins 5, 10, 25, and 50 cent pieces, but has no $1 pieces and no gold coinage. In consequence the merchants here find it convenient to use the American coins, and the distance to the point where they may be exchanged is so short that any merchant who is selling goods upon which he is making a profit can well afford to accept in payment American silver, which he can easily exchange for Canadian silver coins, Canadian bank notes, or American gold coins within a few hours and at very slight expense. Indeed, if the Canadian merchant is dealing with persons south of the international boundary he will pay his accounts with the American money he has accumulated, and both parties will be free from paying exchange.

I am informed that the Canadian government will soon open a mint at Ottawa at which both gold and silver will be coined.

L. EDWIN DUDLEY, *Consul.*

VANCOUVER, BRITISH COLUMBIA, *April 6, 1905.*

CANADIAN VERSUS SCOTCH PIPE.

(From United States Consul-General Holloway, Halifax, Nova Scotia.)

The manufacturers at Londonderry, Nova Scotia, are up in arms because of want of sufficient protection, which enabled the Scotch pipe manufacturers to underbid them $1.50 a ton on a large contract for pipe for the city of St. John, New Brunswick. A correspondent of the Halifax Herald says that Canadian pipe foundries are up against Scotch competition—unfair competition at that—until such time as the government shall come to the assistance of the home concerns by giving them adequate protection such as they have long been seeking.

The Herald's correspondent continues:

Some will say there is a duty on water pipes. Quite true; a duty of $8 a ton, with the 33⅓ per cent British preference off, leaving the Scotch pipe subject to a duty of $5.35. Up to the time of the change of government in 1896 the duty was $10 a ton. The minister of finance struck off $2 on the ton, making the duty $8 a ton. Add to the $2 the 33⅓ per cent preference off $8 and it will be seen that Canadian pipe has $4.65 less protection against British pipe than it had in 1896 and $2 less against foreign pipe—that is, pipe made in the United States and other countries not acknowledging allegiance to the British flag.

There is, then, a duty of $5.35 on Scotch pipe coming into Canada. This, of course, would be adequate protection to the Canadian concerns were conditions affecting the manufacture of pipe equal in the two countries, but they are not. Scotch pipe can be manufactured much cheaper than Canadian. For instance, the Scotch concerns enjoy over the Canadian concerns an advantage of 20 per cent in wages paid, $4 per ton in the cost of iron, and $2 per ton in the cost of coke. These advantages enable them to overcome the disadvantage of the Canadian duty of $5.35 to pay freight and to make a fair profit at least.

W. R. HOLLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *April 22, 1905.*

VANILLA CULTIVATION IN MEXICO.

(Extract from the annual report for 1904 of United States Consul A. J. Lespinasse, Tuxpam, Mexico.)

This section of the State of Veracruz is the natural habitat of the vanilla vine, which thrives in perfection and forms a source of great profit to those engaged in its culture, which is exceedingly simple. The land is cleared of underbrush and the vine cuttings, which should be about 18 inches long, are planted beside suitable trees, left standing for the purpose. As soon as the joints commence to sprout they throw out tendrils, which cling tenaciously to the trees, and soon form climbing vines, which after three to four years commence to bear. In the fifth year the vine will be in full bearing, and will produce from 15 to 40 beans, each bean worth from 8 to 10 cents Mexican (3.82 to 4.77 cents United States); in certain years the beans have been known to sell as high as 18 cents (8.59 cents) apiece. The cured beans command a much higher price. It is only the experienced curer who understands the process, which is a delicate one, but easily acquired by practice and observation.

It is estimated that a 5-acre vanilla plantation will yield sufficient income to render its owner independent for the remainder of his life. But in order to succeed it is necessary to give the tender vines personal and constant attention as they pass from stage to stage in their growth, and to protect them from rough treatment, to which they are usually

exposed when left in charge of hired help. Where one planter has succeeded hundreds have failed, owing to lack of personal care. This is strikingly illustrated by visiting the great vanilla districts, where it will be noticed with what tender solicitude young vines are nursed by the French and Italian colonists, who have made such a remarkable success of their plantations and who have grown wealthy following this pursuit.

Vanilla cultivation is especially adapted to women or persons who can not endure exposure or hardships. The vine is interesting, and its culture is a seductive and profitable occupation. Along the Tuxpam River and for 50 to 60 miles inland southwest of this place there is an extensive territory well suited to the cultivation of the vanilla and kindred tropical products.

AMERICAN AND EUROPEAN MACHINERY IN MEXICO.

(Extract from the annual report for 1904 of United States Consul A. J. Lespinasse, Tuxpam, Mexico.)

In view of Mexico's proximity to the United States, it seems strange that American machinery is not exclusively employed by all of the 14,000,000 to 15,000,000 Mexicans—mostly engaged in agriculture and mining—who have occasion to use machinery. On the contrary, they seem to prefer English and German makes, not on account of superior workmanship or cheapness, but apparently because European manufacturers are disposed to conform to their requirements. Furthermore, the Europeans extend long credits, which permit the buyers to proceed leisurely, in conformity with the slow methods employed here in every enterprise.

American machinery is admitted to be excellent, but it is not suited to the rough handling of the unskilled Indians and half-breeds, who, in majority of cases, perform all kinds of labor here. By most of these a machine is made to perform its duty, regardless of defects which may exist through faulty installation or other causes. The laborers do not stop to take these possibilities into consideration. They can not appreciate the fine working parts of complicated machinery, nor the careful handling it demands. European machinery is fully one-fourth to one-half heavier than American machinery of the same power, and will stand much rough treatment.

Another source of complaint is that carelessness is displayed by American manufacturers in shipping machinery and accessories, which frequently arrive in very bad condition, requiring the missing parts to be replaced by native mechanics, who thereby jeopardize the working of the machines. The European manufacturer assumes no risk through irresponsible packers or assistants; his products are

packed and shipped in a faultless manner, which satisfies his customers, who are quick to appreciate all that this means to them, especially if they are located in some remote section where it is difficult to transport machinery and almost impossible to replace parts that are missing or broken.

By thoroughly canvassing this country American manufacturers will, no doubt, easily overcome these objections, and greatly increase the demand for their machinery of all kinds, which is, notwithstanding criticisms, already held in high esteem. There would be a large field for small motors, pumps, rams, etc., which could be applied to a variety of purposes, such as sawing wood, filling water tanks for stock, and running coffee fanners, cornshellers, decorticating machines, and small cane mills.

In the more important industrial establishments, such as large sugar-cane plantations and stock ranches and mines, there is an unlimited field for the introduction of machinery and mechanical implements of all kinds, about which the average Mexican planter or miner has not the faintest idea, but which he would gladly utilize if brought to his notice by competent and painstaking salesmen, speaking Spanish, and possessing sufficient practical mechanical knowledge to be able to demonstrate how the machine should be operated, so that the unskilled attendant could get a practical illustration of its working.

EXPORTS OF BRITISH AND AMERICAN MACHINERY TO MEXICO.

The following statements are compiled in the Bureau of Statistics, Department of Commerce and Labor, from British and American official publications, and show the exports of machinery and implements from the United Kingdom (calendar year) and the United States (year ended June 30) to Mexico in 1903:

United Kingdom.—Implements and tools, $170,566; locomotives, $70,905; agricultural steam engines, $47,462; other steam engines, $140,773; mining machinery, not steam, $25,856; textile machinery, not steam, $247,306; other machinery, not steam, $318,537; all other machinery, $23,194; total, $1,044,599.

United States.—Agricultural implements, $330,910; machinery, machines, and parts of, not otherwise designated, $4,755,095; sewing machines, $490,238; steam engines, and parts of, $1,692,622; total, $7,262,865; total British, $1,044,599; excess of American machinery, $6,224,266.

In addition to the foregoing, American builders' hardware, saws, and tools, to the value of $704,601, were exported to Mexico during the year. There are no available statistics at hand covering the exports of machinery from Germany to Mexico.

OPPORTUNITY FOR KNITTING MILL IN AMOY.

(From United States Consul Anderson, Amoy, China.)

I believe that a knitting factory for the manufacture of goods especially required in the Chinese trade would be a profitable venture.

There are no textile factories in Amoy. Practically no wool is handled here at present. Considerable wool is produced in northern China, but none of it is brought to Amoy, as there is no demand for it. I do not think there would be any difficulty in securing a concession for a factory, although this would of course depend largely upon where a concession was wanted. Five per cent duty is charged upon woolen goods imported into China and upon such goods sent from one province to another.

General statements as to conditions respecting any line of enterprise in China are likely to be misleading, for conditions vary greatly, even in short distances. In general, it may be said that living in China for a foreigner costs about the same as it does in the United States. Some items will run higher and others lower. The difference between the cost of living in San Francisco and in Amoy would be slight, all things considered, but probably in favor of Amoy. Chinese labor of the mill employee class would probably cost about $4 gold a month, the laborer boarding himself. Prices for labor run from $3 to $10 gold per month, depending upon the sort of work, whether the workman can speak English, the demand for labor by foreigners, and similar elements. The climate in Amoy is hot and damp, the winters being short seasons of chilly, damp, and rainy weather, with no frost. Back from the coast, in the hills, there is some frost. The death rate in the foreign colony on Kulangsu Island, in Amoy Harbor, is about the same as in a similar town or city in similar latitude in the United States, the sanitary conditions being regulated by a municipal council of the foreign residents.

GEORGE E. ANDERSON, *Consul.*

AMOY, CHINA, *March 3, 1905.*

REDUCTION IN PRICE OF CALCIUM.

Under date of March 24, 1905, United States Consul Theophilus Liefeld, of Freiburg, Germany, transmits the following from the London Daily Mail of March 18, 1905:

CALCIUM FALLS 75,000 PER CENT IN VALUE.

It would seem to be a risky speculation to invest in the rarer metals. One day they may be worth £20 or £100 [$97.33 or $486.65] an ounce, and the next day they may be placed on the market by the ton. Some-

thing like this has happened in the case of the once rare metal calcium. A month ago there was only an ounce or two in England, and now the metal can be ordered by the hundredweight.

Its price per ounce, according to chemists' lists, has changed in the following remarkable manner: 1903, £56 5s. [$273.73]; 1904, £25 [$121.66]; 1905 (January), £9 [$43.80]; 1905 (March), 1s. 6d. [36 cents]. From being a mere laboratory curiosity it has become cheap enough to experiment with in connection with the manufacture of armor plate or hardened steel, and already manufacturers are asking for whole hundredweights for this purpose.

The discovery which has brought about this extraordinary "slump" was made by two German chemists, who have patented their process. The metal is being placed on the English market by Messrs. Armbrecht, Nelson & Co., of 71 and 73 Duke street, Grosvenor Square, the well-known West End chemists and metallurgists. Orders are pouring in from scientists, such as Sir William Crookes and Sir William Huggins; schools, such as Harrow and the Borough Polytechnic; and steel manufacturers.

Mr. Armbrecht was kind enough yesterday to present a representative of the Daily Mail with a stick weighing 4 ounces. Two years ago the gift would have cost £225 [$1,094.96]. Yesterday its value was 6s. [$1.46], and a year hence it may be worth 2 pence.

Calcium was first made in minute quantities by Humphrey Davy. In the new process chloride of calcium is placed in a receptacle and fused by electrolysis. An iron cathode forms a basis upon which the molten calcium deposits itself, and the once rare metal builds itself up into an irregular rod resembling a cabbage stalk.

When the stalk has grown to the right length it is chipped off and dipped in paraffin wax to preserve it from the action of the air.

A curious point proved by the new process is that metallic calcium is white and not yellow. So rapidly does it change its color—owing to the action of the air—from white to yellow that the white tinge has not previously been observed.

GERMAN TRADE CONDITIONS.

(From United States Consul-General Guenther, Frankfort, Germany.)

The following paragraphs are translated from the annual report of the Düsseldorf Chamber of Commerce for 1904, just issued:

The most noteworthy feature of Germany's economic life in 1904 was the strong tendency toward concentration of manufacturing establishments, financial institutions, shipping lines, and commercial concerns.

Although business has fairly recovered from the crisis of 1901 and is in a healthy condition, yet the uncertainty as to the new commercial treaties and the reactionary course of internal politics cast a shadow on the bright picture of Germany's economic position. Agriculture and river and canal transportation have suffered from the severe drought. The manufacture of machinery has not shown notable improvement, and many other industrial branches were unfavorably affected by the enhanced prices of raw materials. Glass manufactur-

ing continued profitable, owing to the renewal of the glass trust. Paper factories and printing establishments, malt works, saw and planing mills, and the building trades were well employed during 1904. The flouring mills worked profitably; not so the cotton textile factories, which suffered severely from the extreme price fluctuations of the raw material.

The chamber severely criticises the hostile spirit of the Agrarians toward the commercial, financial, and manufacturing circles of Germany, and it condemns the legislative and administrative inroads upon trade and industries. It opposes, as oppressive to commerce, the projected tax on river navigation and the increase, up to 5 per cent on the amount of sales, of the Government tax on department stores. Like the other German chambers of commerce, it advocates the passage of a law to classify food products and establish rules concerning their quality and wholesomeness, based on the opinions of commercial and scientific experts. The report expresses satisfaction with the order of the Prussian minister instructing the authorities to allow the sale of dried fruit if it does not contain more than 0.125 per cent of sulphuric acid. Since then the trade in American dried fruit has been very steady.

Business in American lard was satisfactory. Owing to the rigorous inspection only prime quality is imported. But the inspection fees are considered to be unjustly high. For some time to come American corn will dominate in German markets. American barley was introduced as cattle feed, but it did not take well, being greatly inferior to the Russian product.

The report says that it was not possible for German manufacturers of railroad materials to compete with American works in the British colonies on account of the advantage the Americans have in cheaper freights.

In partly manufactured steel products German exporters found it extremely difficult to compete with the Americans in the markets of Great Britain, being able to do so only by reducing prices. Large orders for wire tacks were taken abroad, but at prices which netted a loss. It is difficult to overcome American competition in compressed air tools. American gas tubing still enters German markets. American tempered cast fittings have been crowded out of the German markets, and the German fittings may very likely push them out of the foreign markets, as German workmanship is superior; besides, German manufacturers adapt themselves more to the wishes of foreign customers. The outlook for the exportation of German steel rails is not encouraging, unless a market is found for them in the German colonies. The exportation of ice machines and cold-storage plants has been brisk. Many orders for dental instruments have been received from abroad, especially from America. The manufacturers of cast iron, enameled, and tin-lined ware have been busy. Sales to Holland have been good.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *March 25, 1905.*

COMBINATION OF CANADIAN APPLE EXPORTERS.

(From United States Consul Fleming, Edinburgh, Scotland.)

During the past six months American exporters of apples have met but little competition in the United Kingdom from either Canada or Australia. The quality of American apples has been excellent and they have commanded good prices. Newtowns sold recently as high as $12.15 a barrel and Oregons as high as $6.15 a bushel. Colorado packers have sold their best grade for as much as $4.85 a bushel. Yet the first consignment of new Australian apples—which in previous years sold at extraordinary prices—sold in London a week ago at $2.55 to $4.35 a bushel. This seems to show that the Australian apple cannot gain permanent favor in this country in competition with the superior American fruit. It will find a market, but at a comparatively low price.

It is announced that Canadian apple shippers have formed a combination with the object of controlling the British markets by dealing directly with small fruit merchants, and thus taking the trade out of the hands of the wholesale commission firms. On this subject a fruit-trade expert says:

Last year the Canadian apple export trade sustained a complete check, and American merchants monopolized the business in the leading English cities. Alarmed at the progress made by the Americans, the colonial fruit men at once planned the new combine, and Canadian apples for the first time are to be shipped to British ports on cooperative lines. Several associations in Canada have banded together under an agreement to collect and market their members' fruit uniformly. A representative of the colony informs us that over 150,000 bushels of apples will arrive during the present year under the new system. Should the venture succeed or prove anything like as satisfactory as anticipated, the following year a quarter of a million bushels of Canadian apples will be consigned to the English markets by the officials of the combine. But the most surprising part of the affair is that none of these enormous parcels of fruit are to be sold on commission. They will be offered outright at a price to be fixed, so that the aim of the combine is to effect a revolution in the system of distribution. The dealers predict failure for the new movement. Naturally they are strongly opposed to the action of the combine and consider it an attempt to interfere with the settled systems of distribution. If the movement succeeds, the dealers say, a serious blow will be struck at the market commission system. Already a market combine to check the effect of that of the Canadian shippers is talked of.

For some years the colonial exporters have studied the distributive methods in vogue in the English markets, but it is only this year that they have decided to act upon a plan specially worked out in England by a well-known expert for the purpose of insuring increased demand and sales for Canadian apples in English cities and towns. It is expected that by the end of the year Canadian apples of superior quality will be found in abundance in every town and village throughout the four

kingdoms. The fruits are to be of high color and good size. They will be put up in special boxes and barrels, but whatever the size of the packages the quality of the apples is to be well maintained. Upon inquiry we find that several of the most important distributive firms in the Midland and Scottish markets oppose the attempt of the Canadian combine to disorganize the present systems of disposal utilized by wholesale commission firms.

As might be expected, English apple growers also are showing a very strenuous opposition to the combine of Canadian exporters. It is evident that in the coming season there will be a severe struggle in this trade. American shippers are not expected to yield their strong position in British markets without a vigorous effort to defeat the plans of the combine, and the sympathy and cooperation of most of the commission houses will be a great aid to them. Their best aid in this competition, however, will be a careful maintenance of the quality of their shipments at the high standard of the past season.

RUFUS FLEMING, *Consul.*

EDINBURGH, SCOTLAND, *April 6, 1905.*

GOVERNMENT POSTAL SAVINGS BANK AND LIFE ANNUITY FUND IN BELGIUM.

(From United States Consul-General Howe, Antwerp, Belgium.)

One of the predominating characteristics of the Belgian people is thrift, the practical results of which may be seen in the small percentage of paupers, both in the cities and in the rural districts. The tendency to save and to live within one's means has been greatly encouraged by the Government, which has adopted and developed a financial system by which the very poorest in the country, whether native or foreign born, may get interest on his money from the Government and contract for Government life insurance or life annuities. The Government system of life annuities has been in practice since the promulgation of the law of March 8, 1850, and the Government savings bank since the promulgation of the law of March 16, 1865. By the latter law the National Savings Bank was constituted and combined with the National Life Annuity Fund, and on December 31, 1903, the balance sheet of the National Bank showed a deposit to the credit of the combined institutions of $45,992,768, or, roughly, about $7 per head for the entire population.

GOVERNMENT POSTAL SAVINGS BANK.

DEPOSITS.

The Government savings bank was instituted solely to provide means for the people to put their savings out at interest, and thus to encourage national thrift, and every possible facility to this end

is given to the public. Deposits may be made in every post-office of the Kingdom and in all the agencies of the National Bank. The minimum that may be deposited is 1 franc, and no fractions of a franc are accepted. There is no limit to the amount that may be deposited by one person; but more than 5,000 francs ($965) may not be deposited in any period of fourteen days without special authorization from the general management of the post-office.

Deposits are made by purchasing special adhesive deposit stamps, which serve as receipts for the money paid in, and are pasted in a bank book bearing an official number, which is delivered to each depositor free of charge. In this book is entered every transaction between the depositor and the savings bank, including the calculation of interest. Without special authorization from the management of the savings bank, only one book may be granted to each depositor. Interest is calculated annually, and for this purpose the books are called in and a receipt is given for them. Depositors may correspond with the National Savings Bank free of postal charges. To protect depositors from their own extravagance the law prohibits the hypothecating of a savings bank book without a special permit from the management. After the issue of a book deposits may be made and entered therein at any post-office of the Kingdom.

Deposits up to 1 franc may be made by means of 5 and 10 centime stamps (1 and 2 cents), while scholars of the primary and intermediate schools, public or private, and those of State charity schools, are specially authorized to make deposits of a franc by means of 2 centime stamps (two-fifths of a cent). The amount of deposits made by means of postage stamps may not exceed 10 francs ($1.93) per month. In order to encourage small savings by means of postage stamps on the part of school children, farm laborers, etc., rural postmen carry with them the necessary forms for this purpose, which may be had on demand. To facilitate the withdrawal of small sums, postmen may also make the payment to persons living at long distances from branch post-offices.

Before the bank book is delivered to the depositor he signs a declaration to the effect that he is cognizant of the rules and regulations governing transactions between the depositor and the bank, and agrees to accept no receipt for deposits other than the adhesive stamps which are pasted in his book, duly signed by the postmaster, and further, to send his book to the management whenever called upon to do so. In case of loss or theft of the bank book the depositor must immediately inform the general management through the nearest post-office. The chief clerk of the post-office will inform the depositor as to the formalities he must fulfill in order to obtain, within a month, a duplicate bank book, for which a charge of 25 centimes (5 cents) is made.

All postmasters and postal clerks are particularly instructed by the

Government to urge the public to make use of the savings bank and especially to further the system of saving by means of postage stamps on the part of laborers and scholars. To this end postal officials are encouraged by a small premium on the volume of deposits secured.

WITHDRAWALS OF DEPOSITS.

Withdrawals of deposits may be effected at any post-office in the Kingdom, provided the application is made fifteen days after the last deposit. No withdrawal is allowed, unless the depositor's book is produced, upon which the transaction is recorded over the signature of the postmaster. Any sum under 100 francs ($19.30) may be withdrawn immediately on application, but if the application is made at a post-office other than that by which the book was issued, the depositor is obliged to prove his identity to the satisfaction of the postal clerk in charge. For any sum between 100 and 500 francs ($19.30 and $96.50), fifteen days' notice of withdrawal must be given; for a sum between 500 and 1,000 francs ($96.50 and $193), one month's notice; for sums between 1,000 to 3,000 francs ($193 to $579), two months, and for sums above 3,000 francs, six months. Should a depositor desire to withdraw a sum greater than 100 francs ($19.30) without giving the full length of notice required, he may make a special application to the general management. Notice of withdrawal dates only from the day of the last deposit. Sums of 5,000 francs ($965) or more are paid by the central office of the savings bank or by the nearest branch of the national bank.

INTEREST.

Money bears interest after the first fifteen days following its deposit, but interest is not calculated on fractions of francs, and fractions of centimes are not taken into account. On December 31 of each year the accumulated interest is added to the capital, and begins to draw interest on January 1. Money withdrawn ceases to bear interest fifteen days prior to its withdrawal. The rate of interest on deposits is fixed periodically by the general management, subject to the approval of the minister of finance. Every five years the Government may decide, on the advice of the general management of the savings bank, that a bonus from the reserve shall be distributed among depositors who have held their books at least one year.

MANAGEMENT OF FUNDS.

Money deposited may, at the request of the depositor, be converted into Belgian Government bonds at the current rate of exchange, and the savings bank may, after advising the depositor, convert all sums exceeding 3,000 francs ($579) in any one deposit book into Govern

ment bonds in order to reduce the total of each depositor's book to a maximum of 3,000 francs.

The savings deposits are divided into three classes: (1) General working fund; (2) temporary investments; (3) permanent investments. The funds applied to temporary investments are used in the following ways: (1) Discounting letters of exchange, bills, etc.; (2) making advances on bills and drafts, money bonds and bonds for gold deposited at the mint, either at home or abroad; (3) making advances on warrants; (4) making advances on Belgian or foreign government bonds, municipal or provincial bonds, or stock of Belgian corporations. These transactions are made through the intermediary of the national bank, which keeps a special account of them separate from its own business.

The funds applied to permanent investments are used as follows: (1) Purchasing Belgian Government bonds or other securities guaranteed by the State; (2) purchasing provincial or municipal bonds of Belgium; (3) making mortgage loans; (4) purchasing stock of Belgian companies, which for five consecutive years have honored all their obligations from their ordinary resources.

The total profits from these transactions forms the reserve fund of the savings bank.

GENERAL MANAGEMENT OF THE SAVINGS BANK.

The savings bank is managed by a general council, a board of directors, and a general manager. The general council is composed of a president and twenty-four members; the board of directors is chosen from the general council, and comprises a president and six members. The presidents and members of the council and board are appointed and dismissed by the King and are chosen for a term of six years. Each year four members of the general council and one member of the board of directors retire, but are eligible for reappointment. The general manager is appointed and may be dismissed by the King. His salary and the amount of his guaranty bond are fixed by royal decree. He may not, during his term of office, be a member of either House of Parliament.

INTERNATIONAL SERVICE.

Depositors having funds in either the Government savings banks of Belgium, France, or Netherlands may transfer their deposits from one country to the other. In France the maximum amount that may be deposited or transferred is 1,500 francs ($289.50). In Netherlands no maximum is stipulated.

GOVERNMENT ANNUITY FUND.

The Government annuity fund enables persons to secure for themselves, or for the benefit of others, life annuities that can not be seized,

and to insure the payment of the capital paid in to create such annuities to the beneficiaries' heirs after death. Payments for this purpose may be made at all branches of the savings bank, at all agencies of the national bank, at all post-offices, and at the offices of all tax receivers. Any person of the age of 18 or more may make payments to the annuity fund for himself or for the benefit of any other person over 6 years of age. The minimum payment that may be made to secure an annuity is 1 franc (19.3 cents), and the smallest annuity paid by the fund is also 1 franc, while the largest is 1,200 francs ($231.60) per annum.

The annuities become payable at the end of each completed year of the annuitant's life after the age of 50 to 65 years, and when the contract is made it must be stated whether the beneficiary desires the annuity to begin at the age of 50, 55, 60, or 65. Annuities to take effect immediately on payment of the necessary capital may be contracted for by special arrangement with the general management of the fund, but the minimum annuity that can be thus contracted for is 12 francs ($2.32) per annum.

Annuities may be contracted for in two ways: (1) The capital may be given up entirely to the fund without drawback after death; (2) it may be stipulated that the capital, less 3 per cent for general expenses, shall be paid over to the heirs after the death of the beneficiary. All annuities are personal, unless constituted by the savings of both husband and wife, when each receives half the annuity. In the event of the death of the beneficiary before his annuity takes effect, the whole of the capital paid in is delivered to his heirs.

Any person who depends upon his own work for sustenance and who, before the age stipulated for the payment of his annuity, becomes unable to work, is allowed to draw at once an annuity calculated from the amount of the payments made up to the time of his becoming incapacitated. In the event of the beneficiary of an annuity dying after his annuity has taken effect, without any means whatever other than this, and in a state of want, the Government annuity fund allows a sum of 25 francs ($4.83) to defray funeral expenses.

EXAMPLES.

The following examples will show the advantages offered to the public by the Government annuity fund:

According to tariff A, for annuities contracted by abandoning the capital entirely to the reserve fund, the sum of 1,000 francs ($193), if deposited for the benefit of a child 6 years of age, would yield an annuity on the following scale: If contracted for to begin at the age of 50, $80.05; 55, $111.92; 60, $184.40; 65, $311.20. Inasmuch, however, as the maximum annuity paid by the fund can not exceed $233, the time for receiving the largest annuity must be fixed at the corre-

sponding age between 60 and 65. A man or woman depositing 1,000 francs ($193) at the age of 25 would receive an annuity on the following scale: If contracted for to begin at the age of 50, $38.80; 55, $56.90; 60, $89.10; 65, $149.80. A person at the age of 35 depositing 1,000 francs ($193) would receive an annuity as follows: If contracted for to begin at the age of 50, $25.90; 55, $38.20; 60, $59.30; 65, $100.20. A person at the age of 50 depositing 1,000 francs ($193) would receive an annuity as follows: If contracted for to begin at the age of 55, $20.50; 60, $30.19; 65, $54.01.

According to tariff B, for annuities contracted by reserving the capital for the benefit of the heirs, the sum of 1,000 francs ($193) deposited for the benefit of a child 6 years old would yield an annuity on the following scale: If contracted for to begin at the age of 50, $57.60; 55, $84.50; 60, $131.60; 65, $222.78. A man or woman at the age of 25 depositing 1,000 francs ($193) would receive an annuity as follows: If contracted for to begin at the age of 50, $24.30; 55, $35.70; 60, $54.81; 65, $94.08. A person at the age of 35 depositing 1,000 francs ($193) would receive an annuity as follows: If contracted for to begin at the age of 50, $14.54; 55, $21.56; 60, $33.28; 65, $56.26. A person at the age of 50 depositing 100 francs ($19.30) would receive an annuity as follows: If contracted for to begin at the age of 55, $8.44; 60, $13.14; 65, $22.22.

Almost any combination may, however, be made by the beneficiaries, who may contract for their annuities by paying in as little as 20 cents a week, or even 20 cents a month, but no annuity greater than 1,200 francs ($231.60) per annum may be contracted for.

Government Insurance.

In connection with the Government annuity fund there is an insurance fund, the management of which is under Government guaranty. Life or endowment policies may be contracted for. Endowment policies may be contracted for to be payable at the end of 10, 15, 20, or 25 years, or for a period ending at the ages of 55, 60, or 65 years. To contract an insurance the party must be not less than 21 years of age and the beneficiary must be 21 years of age at least and not older than 55. The sum to be paid to any one person on account of an insurance policy can not exceed $1,000. The cessation of the payment of premiums, after the first premium has been paid, does not invalidate the right to receive benefits in proportion to the amount of premiums paid.

EXAMPLES.

A person 35 years of age who pays regularly an annual premium of 100 francs ($19.30) leaves to his heirs at death the following sums: If contracting to pay until the age of 55, $556.32; 60, $639.57; 65, $683.63.

A person 35 years of age who pays regularly an annual premium of 100 francs ($19.30) receives at the following ages the following amounts: If contracted for to be payable at 55, $418.26; 60, $518.55; 65, $605.86.

Concluding Remarks.

Americans traveling in Belgium are surprised at the absence of beggars and the evidences of poverty so prevalent in some of the other countries of Europe, and wonder at the thrift and contentment manifest among the peasants and poorer classes of the Kingdom, a striking evidence of which is the fact that few ever leave their country, as is shown by the statistics of emigration. Of 180,000 emigrants sailing from the port of Antwerp for the United States and other foreign countries during six years past, only 3 per cent were natives of Belgium. The present prosperous condition of the laboring classes of Belgium is due largely to the wisdom, forethought, and personal interest taken in their welfare by King Leopold and the able men he calls around him as advisers, himself being recognized as one of the best financiers in Europe, but no one effort on the part of the Belgian Government has been a greater incentive to the poorer classes to save and accumulate property than the establishment of the Government Savings Bank, which receives their savings in sums however small, paying them interest or providing them an annuity. I am unable to state the grand total of depositors in the Government Savings Bank of Belgium, but the number reaches into the millions, and is made up almost entirely from the families of the peasant and laboring classes.[a]

Church Howe, *Consul-General.*

Antwerp, Belgium, *April 20, 1905.*

OSTRICH FARMING IN CAPE COLONY.

(From United States Consul Proffit, Pretoria, Transvaal Colony.)

Mr. Oscar E. G. Evans, writing in the Transvaal Agricultural Journal, gives some interesting facts relative to ostrich farming in Cape Colony. The industry had its inception in the early sixties, and has grown to enormous proportions. The chief port of shipment for the feathers is Port Elizabeth. From that place were shipped in 1862 1,386 pounds, believed to have been mostly the feathers of wild birds sent in by hunters from the interior. The shipments had grown to 21,921 pounds in 1873 and to 131,279 pounds in 1881. The following

[a] According to the latest official report received by the Bureau of Statistics, the number of depositors in the "Caisse Générale d'Epargne" on December 31, 1903, was 2,088,448, and their total deposits amounted to $141,851,419. The average deposit account thus amounted to $67.92.

figures show the increase in the weight and value of feathers exported from Cape Colony since 1889:

Exports of ostrich feathers from Cape Colony, 1889–1903.

Year.	Weight.	Value.
	Pounds.	*Dollars.*
1889	229,137	1,791,855
1894	350,404	2,422,398
1898	369,778	3,646,801
1903	490,066	4,605,154

"A few remarks," says Mr. Evans, "upon the manner in which ostrich farming is carried on in Cape Colony may be of interest to those farmers who have had no experience in this branch and whose farms may be well adapted for carrying on ostrich farming." He continues:

NECESSITY OF GOOD FENCES.

It is necessary that their runs should be well inclosed with a good fence. When once a farmer has his farm inclosed, ostrich farming is simple and requires very few hands. All that is necessary is to keep one good servant to walk around the boundary fence every morning to see that no ostriches have fallen out through the fences, which they often do if frightened during dark nights by jackals or other wild animals. If there is much vivid lightning they are apt to stampede at night.

From 100 to 300 plucking birds may be run together in a large camp of about 1,000 morgen (2,000 acres) of ground. If the farmer wishes he may run cattle in the same camp with the ostriches, but it is not advisable to run small stock (sheep or goats) on the ostrich run, as they seem to trample and eat out the smaller soft weeds upon which the ostrich principally lives.

PLUCKING.

When the plucking time comes around it is necessary to collect the troop of ostriches. This is done by sending about half a dozen men into the inclosure on foot and a couple of men on horseback to bring the stragglers in. When they are all brought together they are driven into a small kraal (inclosure) about 40 yards square. In this kraal the plucking boxes stand. The birds are then caught and as quickly as possible small linen bags are slipped over their heads, a process which immediately conquers the bird, for finding himself in darkness he will stand trembling and ready to be pushed in any direction. With these bags over their heads they are then pushed into the plucking boxes. A man standing outside the box at each side gets hold of the wing and clips the feathers from it, then walking round to the tail clips the tail feathers also until the whole troop has passed through the plucking boxes. Six men will pluck 150 birds in one day. The birds are now again turned adrift to run in their large inclosure in peace for two or three months (usually two months) until the quills are ready to be drawn, when they are again collected and passed through the plucking boxes.

The word plucking is likely to convey an erroneous impression to those who have no knowledge of ostrich farming. It would lead one to imagine that the feathers are pulled and dragged away, perhaps in a bleeding state, from the unfortunate ostrich, and so causing him great pain. In reality the clipping of an ostrich's feathers causes him just about as much pain as shearing does to a sheep. The feathers are usually clipped at six months' growth; that is, from the date of drawing the quills. At this stage the feathers are well grown and are just in the pink of their bloom and beauty, rich and full of luster. To draw the feathers at this stage would mean great pain, besides ruining the sockets in which the feathers grow. For this reason therefore the feathers are clipped to catch them in full bloom, and the quills or stalks of the feathers are left in. After two or three months the quill end of the feather, which was left in, becomes ripe and dried out to the very tip, and at this stage the quill is drawn. It now comes away very easily, and, if anything, is a relief to the bird, making room for the young feather which is already preparing to come out. Any man wanting to make money too quickly, and therefore drawing the quills before the time when they are ready, and consequently damaging the socket from which the feather grows, would simply be "killing the goose that lays the golden egg."

GRAZING.

Ostriches do very well on most bushes. They eat grasses, too, but do not thrive so well on pure grass as where there is a mixture of bushes. Along valleys where the soil is deep and the large mimosa trees grow, with a mixture of "brakbosch" and the various kinds of "ganna" and "karoo" bushes, is found the typical ostrich veldt (pasture). The ostriches are very fond of limestones or pebbles, such as are found in river beds. These they eat greedily for the purpose of grinding up and digesting their food. They will often swallow a pebble as large as a walnut or a bone the size of a turkey's egg.

LUCERNE FOR OSTRICHES.

Any farmer having means of growing lucerne—that is, having water and irrigable lands—will find running ostriches on lucerne very much more lucrative than growing maize or wheat or barley or any other cereal crop, which can be imported almost cheaper than it can be grown in this country. When you have lucerne on your lands you can graze five ostriches to 1 acre all the year round on it, and good ostriches running on lucerne will produce easily $24 to $37 each per annum. Thus from each acre you would get a return of from $120 to $185 per annum in ostrich feathers, or from 50 acres of lucerne you would make from $6,000 to $9,250 per annum in feathers, and your expenses would be covered by $487 per annum. Ostriches are very small eaters, and they do remarkably well when fed upon about 3 pounds of lucerne hay per bird per diem; on this they will keep fat and thrive splendidly without any other food. The number of hands required to farm ostriches on lucerne is ridiculously small compared with those required for growing cereals and other crops. In every way ostrich farming is cheaper and easier and much more lucrative.

BREEDING.

The breeding season for ostriches is from June until about the end of September. Birds, if well fed and kept thriving, will continue to breed all the year round, but the healthiest chicks are those hatched in August and September. In the breeding season the breeders are camped off in pairs, a cock and a hen in a small paddock or camp of about 6 acres. One acre in lucerne will do. If in camping off more than one pair of breeders the wire fences should abut, it is always well to put a double fence with a space of a couple yards between them, so as to prevent cocks kicking at one another through the wire fence. The cock birds at the laying period are very vicious, and in fighting with one another through the fences are apt to break their legs. This is prevented by having a couple of yards' space between the fences. Breeding camps should always be put near the farm homestead. The breeders should be fed daily, in the morning, about 5 pounds of mealies (corn) or barley to each pair. If any green stuff, such as lucerne or green barley is available, a small ration of this will be good, too, or even the leaf of the prickly pear cut up. A supply of crushed bones or limestone should always be lying at one end of the camp, so that the birds may take it as they require.

The cock will always select a spot for the nest, and going down on his breastbone, will kick out a round, dish-shaped hollow to which he will coax the hen, and a few days after the nest has been established the first egg will be noticed in it. The hen will usually lay about a dozen eggs, when the hatching process will start. It is always well, after the nest is thoroughly established, to work up a slight earth bank round the edges of the nest to prevent, in case of heavy rains, any water flooding into the nest and inundating the eggs. It usually takes forty-two days for the eggs to hatch. While the chicks are coming out the eggs should be carefully examined each morning and evening, as sometimes one or two out of a nest of chicks will be unable to break through the shell of the egg. If this is noticed the egg may be gently tapped just enough to crack the shell, when the chick will very soon kick itself out. After the chicks are a day or two old they should be removed from the parent birds and given to a native man or small boy to herd. He should keep moving gently about with them on any spot where there is a growth of something green. The chicks very soon learn to look upon the boy as a guide, and will follow him about just as they would have done their parents. A fortnight after the removal of the chicks the parent birds will be preparing a new nest.

The small chicks after being removed from their parents should be carefully put in a packing case at night with good clean dry sand or loose, dry, kraal manure, covered over the top with old bagging and placed in a room. After they are about 2 or 3 months old, they can sleep loose on the floor of the room, and at about 6 months they will stand nearly as much cold as the old birds. Care should be taken when they are small not to cover them up too warmly in the packing case. By putting your hand in under the covering it is always easy to feel if the heat is too great, in which case one corner at the top of the box might be left slightly open. When the chicks are about 7 months old the first feathers (called spadonas) can be cut, and the quills drawn two months after the cutting of the feathers. The first feathers usually bring very little; a fair average per chick would be about $2.43.

Incubating is also successfully carried on with ostrich eggs; but nature, perhaps, is the best in the long run.

SELECTION.

At the present moment a great deal of attention is being paid to selection, and any farmer wishing to start ostrich farming should see that he starts with good stock. There is nothing which increases faster than ostriches, and by buying a few pairs of breeding birds of good quality one can stock a farm with hundreds of good ostriches. It is a common thing to pay as much as £50 to £100 [$243.50 to $487] for a really well-bred ostrich of first quality, and there is nothing that gives a better return than buying good stock—especially where they are run on lucerne fields—as a "rip" eats just as much as a good ostrich, and the good one returns you three or four times as much as the "rip."

Mr. Evans's article has been given almost in its entirety, because his wide experience has made him thoroughly familiar with his subject, and his advice may be profitably followed by those farmers who have sought to introduce the culture into California, where the conditions are in many respects similar to those which prevail in Cape Colony.

JOSEPH E. PROFFIT, *Consul.*

PRETORIA, TRANSVAAL COLONY, *March 9, 1905.*

PEANUTS IN MARSEILLE.[a]

(From United States Consul-General Skinner, Marseille, France.)

Marseille imported last year 182,010 tons of peanuts, of which 100,971 tons arrived already decorticated, mainly from India, and 80,049 tons came in the shell, principally from the west coast of Africa. These figures vary from year to year, according to crop conditions, the local market being prepared to absorb whatever the producing countries can supply. All of this material is taken up by the oil mills. At least one-half of the total quantity imported is converted into the higher grades of comestible oil, competing, on its own merits, with olive and cotton-seed oils.

The shelled Indian nuts yield an inferior oil, much of which is manufactured into soap, while the African nuts furnish the edible grades in high repute. This is the general distinction between Indian and African nuts, although the product of both countries supplies a certain proportion of both edible and industrial grades. To-day the Indian decorticated nuts are offered in Marseille at $5.50 per ton, against $4.63 to $5.21 which the African nuts command in the husk. The difference is therefore very materially in favor of the African peanut.

On several occasions I have been consulted in regard to the possibility of securing American peanuts for this market, but thus far our

[a] In reply to a correspondent's inquiries.

crop has never been large enough to enable our exporters to share in the business in an important way, nor have the oil-yielding qualities of the sample shipments greatly encouraged efforts in this line. The American nut furnishes an oil that is not remarkable as to quality, and of such limited quantity, compared with the quantity extracted from the African kernels, as to have suggested the imperative necessity of cultivating a new variety if our farmers expect to engage in this business. Indeed, the American nut possesses not only these defects, but is furthermore triturated with especial difficulty and to the injury of the mats employed for this purpose.

The American peanuts are now consumed exclusively in natural form or by the confectionery trade. For these purposes they are perhaps the best in the world, although the Spanish variety is also highly thought of. Last year, owing to a short crop in the United States, peanuts to the declared value of $27,065 were sent to the United States from Marseille. I followed these shipments and learned that, however excellent for oil-making purposes, these reexported African nuts were much less desirable for eating than our own. Since that time I have been in correspondence with the Department of Agriculture upon my proposition to produce a new variety in America which will combine both the excellent flavor of the native nut and the oil-giving qualities of the African. If scientific cultivation can bring about the result hoped for, our southern farmers may not only be able to offer their product in Europe, where peanuts are desired for oil-making only, but they may also make possible a new oil-crushing industry in the United States only less important than the cotton-seed oil industry of to-day. Should it be impossible to obtain a new variety that will satisfactorily meet all requirements, our planters must then either remain satisfied with such domestic business as they have at present, or grow two varieties, one for oil and one for roasting.

The best oil nuts handled in Marseille are received from the provinces of Ruffisque, Sine, and Cayor, in Senegal. Samples of these seeds have been sent to Washington for the service of the Department of Agriculture in connection with the suggestion referred to above. They could, of course, be obtained in commercial quantities for planting on a large scale if anybody wished to undertake private experiments.

In a report printed in the Daily Consular Reports, No. 1935, April 23, 1904, details were furnished in regard to the defects of the American peanut as an oil producer. These defects have been already summarized and need not be repeated here. They are interesting to the oil-manufacturing trade rather than to farmers and nut dealers.

In Marseille peanut oil is preferred to cotton-seed oil, other things being equal. It is to-day quoted at 70.8 francs per 100 kilos ($13.66 per 220 pounds) edible qualities, against 46 francs per 100 kilos ($8.88

per 220 pounds) for choice American white edible cotton-seed oil. This marked difference in price is due to the exceptional shortage of peanut oil and does not represent normal conditions.

In Europe it has long been regarded as strange that so little has been done in the United States in the direction of manufacturing vegetable oils other than cotton seed. The demand for these oils throughout the world appears to be slowly but steadily increasing. It is unfortunately the case that practically the whole value of the peanut plant resides in the commercial value of the nut, and it remains to be demonstrated whether an acre planted with this seed will yield as generous a return as an acre planted with cotton, and giving a return both in fiber and in seed. Whatever the answer may be, it is probably true that peanuts may be cultivated over a much wider area than may cotton.

ROBERT P. SKINNER, *Consul-General.*

MARSEILLE, FRANCE, *April 6, 1905.*

AMERICAN VERSUS CANADIAN CEMENT.

(From United States Consul Seyfert, Stratford, Ontario.)

Representatives from the large cement manufacturers of Ontario and Quebec recently met in Toronto and appointed a delegation to wait upon the finance minister at Ottawa, to ask for an increase of duty on imports of cement. The present Canadian duty on imported cement is 12½ cents a hundred pounds; the delegation wants the duty increased to 17½ cents a hundred.

The variety of uses to which cement is being put is increasing in proportion to the increasing activity in industrial pursuits which now characterizes all sections of Canada.

The imports of Portland cement into Canada during the fiscal year ending June 30, 1904, were valued at $995,017; more than half, or $510,718 worth, came from the United States. To meet the current demands all the cement manufacturing concerns in Canada are working to their utmost capacity and yet are unable to produce cement as fast as it is wanted. Hence if the additional duty of 5 cents a hundred is granted, the works must be enlarged to meet the demand. Even then it is not probable that Canadian cement can ever replace the American.

Fuel is a large item in the cost of making cement. Bituminous coal is used at all the cement plants. The duty upon this coal is 53 cents a ton of 2,000 pounds. In Ontario every ton of coal used is imported, and the 53 cents duty, with the additional freight expenses, adds to the cost of cement production.

A. G. SEYFERT, *Consul.*

STRATFORD, ONTARIO, *April 13, 1905.*

IRISH LINEN GOODS TRADE WITH THE UNITED STATES.

(From United States Consul Knabenshue, Belfast, Ireland.)

The linen manufacturing industry in the Belfast consular district is in a healthy condition, with a tendency to still further improvement, except in the "sewing industry"—that is, the production of linen embroideries and hemstitched goods. The Irish Textile Journal, a monthly periodical published in Belfast devoted to the flax and linen trade, in the number just issued, thus explains the languishing state of this branch of linen manufacture:

This is the result of a change which experts regard with gravest apprehension, so far as the American cambric trade is concerned. In order to secure the transfer of as much as possible of the operative labor from this to the other side of the Atlantic, the American tariff commission fixed a duty of 60 per cent on embroidery and 55 per cent on hemstitched goods, while a rate of only 35 per cent was assessed on plain cloth. This left a margin of 20 to 25 per cent in favor of the introduction of sewing and finishing in New York and elsewhere. The American end of the business is, so far, confined to the use of "punch" machines, but it is seriously feared that this section of the Ulster sewing industry will be permanently diminished in proportion to the volume of trade with the United States. A very noticeable outcome of the change is apparent in the fact that a great deal of cloth is being sent out instead of finished handkerchiefs, and this has naturally depressed the hemstitching industry to an extent from which there is no hope of recovery.

The "punch" machine, referred to in the Irish Textile Journal, is simply a sewing machine with two needles in the same needle bar, one behind the other. The first carries the thread to secure the hem; the second is without thread and acts simply as a punch to enlarge the holes made by the threaded needle, and thus gives an imitation of genuine hemstitching. It is said to be a Belfast invention.

S. S. KNABENSHUE, *Consul.*

BELFAST, IRELAND, *April 20, 1905.*

GOVERNMENT RAILROADS IN BELGIUM.

(From United States Consul Roosevelt, Brussels, Belgium.)

Construction.—From 1835 to 1844 the records of the Belgian State railroad show an annual perceptible increase in mileage and traffic. During the following twenty-five years the condition of the roads remained very nearly stationary. This was attributed to the fact that the Government abandoned its original policy of reserving the monopoly of building and running the railroad, and granted instead many contracts and concessions.

In 1870 the Government decided to return to its early methods and not to grant further concessions. The result was almost immediate improvement. The State line, by the redemption of old and the construction of new lines, increased in seven years (1871–1878) from 539 to 1,514 miles.

The building of new lines was pushed forward between 1878 and 1883. At this date less attention was directed to construction than to organizing and improving existing lines.

In 1885 the National Society of Vicinal Railways was granted the right to build new lines. From present indications the extent of its lines will in a few years equal that of the lines belonging to the State.

The repurchase of the Grand Central Belge and other lines, in 1896, caused a boom for a few months, but activity ceased in 1897, from which time the State lines have made little if any progress, and at the present moment, instead of creating new lines, the management is improving existing lines or changing them from single to double track.

Traffic.—The increase of traffic has been very great. From 1838 to 1853 the transportation of freight constantly increased, while the passenger traffic remained almost stationary. During the period mentioned the railways carried about 1,841,000 tons of freight and about 6,000,000 passengers. From 1853 to 1870 the freight traffic increased to about 7,767,000 tons, and the number of passengers to 14,000,000. During the following sixteen years, that is to say, to 1886, the tonnage reached 23,000,000 and the number of travelers exceeded 45,000,000, and from 1886 up to the present date amount of freight exceeded 46,000,000 tons, and the number of travelers 135,000,000.

Net receipts.—Although the net receipts have increased with the traffic, the running expenses during the last five years have increased in greater proportion, consequently the ratio of running expenses to the net receipts has been above the average since 1897, at which time it was 58.16 per cent, against 59.22 per cent in 1904.

Capital.—The capital invested increased from $376,779 in 1835 to $405,129,549 in 1903. These figures represent the estimated value of the plants at the dates indicated, appearing in the schedules under "Capital utile."

Salaries.—Salaries and wages are low. Clerks in railway offices esteem themselves fortunate if after long service their annual salary amounts to $600.

Fuel.—This very important item has in the last few years increased annually. From 1885 to 1889 contracts for fuel were signed at 5.57 francs ($1.08) per ton; from 1890 to 1894 at 8.41 francs ($1.62) per ton, and between 1895 and 1899 the price advanced to 14 francs ($2.702) per ton. The last contracts were signed at 12 francs ($2.316) per ton.

GEO. W. ROOSEVELT, *Consul.*

BRUSSELS, BELGIUM, *March 30, 1905.*

WOOL AND WOOLEN GOODS TRADE OF BELGIUM.

(From United States Consul McNally, Liege, Belgium.)

WOOL TRADE.

In 1903 the wool business was in a very unsatisfactory condition, although the manufacturers were normally occupied. Raw wool commanded a high price and the manufacturers found it difficult to secure sufficient advances to meet their orders. This same condition prevailed throughout 1904. Shearing in Australia and Argentina was too high priced for the current sales of finished products. The reason of this condition is not known. The breaking out of the Russo-Japanese war, in the early part of February, marked a sudden rise in price of the inferior grades of wool, which at one time commanded almost the price of the finer grades. The reaction set in during November and December and these grades again brought nearly normal prices. The year, however, ended in a fairly satisfactory way.

WOOLEN THREAD IMPORTS.

The importation of carded thread in 1904 amounted to 195,590 pounds, against 133,908 pounds for 1903, an increase of 61,682 pounds. Germany and France divided this importation about equally. Of combed thread the quantity was 1,551,884 pounds in 1904, against 1,599,283 pounds in 1903.

The increase in the imports of carded thread in 1904 is said to be in inferior grades made from artificial wool (heretofore little used in this country), for use in making a low-priced material for the manufacture of cheap tissues. No other reason is advanced to justify the relatively important increase.

CARDED THREAD EXPORTS.

The exports of carded thread amounted to about 17,651,192 pounds, and exceeded those of the previous year by 135,344 pounds. The following are the countries to which carded thread was exported, quantities being given in pounds: Germany, 2,708,772; England, 13,505,074; Austria, 105,180; Netherlands, 71,984; Switzerland, 117,776; Denmark, 188,210; United States, 53,108; Portugal, 43,974; Sweden, 175,758; other countries, 681,356; total, 17,651,192 pounds. The figures for Germany exceed those of the previous year by about 374,000 pounds, while those for England show a decrease of 374,000 pounds, accounted for by the peculiar transformation of the Glasgow manufactories. Exports to France are declining on account of the excessive customs duties, as well as the location of factories within French territory built and operated by Belgian capital and workmen

to avoid the necessity of paying French duties. These factories are fully equipped with Belgian machinery and the Belgian system of operation is employed.

COMBED THREAD EXPORTS.

The following shows the exports of combed thread in 1904 and the countries to which the thread was exported, quantities being given in pounds: Germany, 1,704,846; England, 6,710; Austria, 181,610; France, 46,948; Netherlands, 375,628; Sweden, 33,704; Switzerland, 300,806; Russia, 830; other countries, 382,096; total, 3,033,228 pounds, a decrease of 660,000 pounds from the exports of 1903. The exports to Germany and Austria were less than those of 1903, while the exports to the Netherlands and Switzerland show increases.

WOOLEN TISSUE IMPORTS.

The imports in 1904 of the four kinds of tissues which the customs authorities recognize and the countries whence they were imported, were as follows:

Light tissues of less than 200 grams (0.54 pounds) to the square meter (39.37 inches square): Germany, $561,745; England, $182,348; France, $717,271; Netherlands, $7,752; other countries, $5,969; total, $1,475,085, an increase in the aggregate over the imports of 1903.

Cassimere and similar cloth: Germany, $49,043; England, $121,443; France, $18,659; Netherlands, $14,963; other countries, $606; total, $204,714, a small increase over the imports in 1903.

Coatings and other heavy tissues: Germany, $8,453; England, $6,307; France, $17,501; Netherlands, $79,030; total, $111,291, a slight increase over the imports in the previous year.

Tissues not denominated: Germany, $474,060; England, $748,356; France, $552,393; Netherlands, $49,790; other countries, $9,906; total, $1,834,505, a small increase over the imports in 1903.

A summary of the foregoing gives: Light tissues, $1,474,987; cloth, $204,715; heavy tissues, $111,292; not denominated, $1,834,505; total imports, $3,625,499, an increase of $73,340 over the imports of 1903.

WOOLEN TISSUE EXPORTS.

The following statements show the value of the woolen tissues exported from Belgium in 1904, and the countries to which they were exported:

Light tissues: England, $13,674; France, $5,064; Norway, $2,922; Netherlands, $679; Sweden, $606; other countries, $6,570; total, $29,515.

Cloth, cashmeres, and similar tissues: Germany, $208,679; England, $139,177; Austria, $70,086; Brazil, $15,361; United States, $296,969;

France, $453,496; Hamburg, $26,836; Italy, $27,670; Netherlands, $147,552; Argentina, $39,650; Roumania, $34,603; Switzerland, $98,235; Turkey, $72,499; other countries, $176,608; total, $1,797,421.

Coatings and other heavy tissues: England, $6,871; Brazil, $4,767; Colombia, $9,940; Egypt, $2,567; United States, $116; France, $1,864; British India, $2,567; Italy, $2,943; Argentina, $16,251; Turkey, $1,215; other countries, $13,094; total, $62,195; a considerable falling off from the exports of 1903.

Tissues not denominated: Germany, $22,606; England, $234,734; Austria, $616; Brazil, $9,501; Chile, $25,872; Spain, $8,332; France, $95,992; Hamburg, $15,106; Italy, $10,897; Netherlands, $265,026; Argentina, $39,560; Switzerland, $62,771; Turkey, $5,176; Uruguay, $23,293; other countries, $39,067; total, $858,549.

A summary of the foregoing exports gives: Light tissues, $29,515; cloth, cashmeres, etc., $1,797,421; coatings and other heavy tissues, $62,195; tissues not denominated, $858,549; total exports of tissues, $2,747,680.

JAMES C. MCNALLY, *Consul.*

LIEGE, BELGIUM, *April 7, 1905.*

FACTS AND FALLACIES CONCERNING BRANDY.

(From United States Consul Jackson, La Rochelle, France.)

Judging from various newspaper articles which have come to my notice, there seems to be a serious lack of knowledge in the United States concerning French brandy. As the spirit of this kind imported into the United States each year is valued at about $1,000,000, the consumers may be glad to know something of its character, production, and commerce.

People in writing on the question, in connection with the new pure-food law in the United States, draw conclusions from legal proceedings against shippers or importers of brandy which are entirely erroneous. For instance, we have a public statement of an official to the effect that he believes that nearly all brandies are impure. This is not true of the product of any European country, and especially not of brandy shipped to the United States. There can be no question about the quality of brandy purchased in England at 3 shillings (73 cents) or even 2 shillings 6 pence (61 cents) per gallon. Such a liquor must, of necessity, be very different from pure brandy, and contain very little of it. In such instances the purchaser is as guilty as the seller, for he knows that he can not buy even a poor quality of pure brandy for anything like the sum he pays. Fortunately for American consumers, no such brandy has for many years been sent from France to the

United States. I say this from actual knowledge, as the declarations of all shipments have been made at one of the consular offices of this district. I do not mean to say that all brandy shipped to the United States is pure, but I feel safe in saying that no unhealthy mixtures have been sent to the United States for a long time.

There is a commerce between the United States and France in what might be called split brandy, which is composed of a certain proportion of pure brandy and a stated quantity of industrial alcohol rectified to 85 degrees. Ordinarily American purchasers of this last-named product know that they are not buying absolutely pure brandy. The healthfulness of this liquor, when prepared as above stated, is not questioned in this country. The quantity of it shipped to the United States is very small, and it is probably oftener used for mixing than for direct consumption. A very large proportion of the cognac brandy received in the United States is pure. By pure brandy I mean distillate of grape wine, which contains the secondary products of distillation in such proportions as to give to the spirit a pleasant odor and taste, without being dangerous to health. A liquor may be badly distilled from pure wine and have a disagreeable taste and be unhealthy on account of the excess of certain secondary products.

Brandy is potable if properly produced the moment it comes from the still. It lacks, however, a certain finesse and mellowness which only comes with aging. I have seen a statement to the effect that brandies and wines alike should age in wood, as they do not ripen in glass. Certain sweet wines, as muscatel, sherry, malaga, and port, may ripen better in wood, but the dry wines which are most commonly drunk and which are produced in greatest quantity in the Bordeaux and Burgundy regions, ripen in glass, and after two years would deteriorate if left in wood. This is especially noticeable in Burgundy wines, which, after two years in wood, during which they become exceedingly disagreeable to taste, are bottled, which is followed by rapid ripening.

Brandies do not age in glass in the same manner, and are placed in wood for that purpose. There has existed for a long time the erroneous idea that brandy was placed in wood for the sake of eliminating fusel oil. Webster's International Dictionary defines fusel or fusel oil as "a hot, acrid, oily liquid accompanying many alcoholic liquors as an undesirable ingredient, consisting of several higher and compound ethers, but particularly amyl alcohol; hence specifically applied to amyl alcohol." This definition can not properly be applied to the secondary product of well-distilled brandy. Because of a thorough misunderstanding of the value of the secondary products, several countries have formulated laws which, if applied, would offer to their residents a rectified spirit which would have no particular advantage over pure alcohol. This fallacy existed formerly in France,

and even to this day the secondary products of distillation are known as "impuretés," impurities. But it is these impurities that give brandy, whisky, rum, gin, and other spirituous liquors their distinctive character. It is not desirable to eliminate them entirely, but to have them in such quantity as will not render the consumption of the liquors in which they are contained dangerous to health.

With regard to the elimination, we find ourselves face to face with another fallacy. Old brandies have not eliminated their secondary products, but, on the contrary, have increased them in proportion to the evaporation of the alcohol. There is an exception to this rule in so far as furfurol is concerned. This element surely diminishes. It should be understood that brandy to be aged has to be carefully watched, and if the new barrel into which it has been stored permits it to absorb too large a quantity of tannin, it is necessary to place the liquor at once in older casks from which the tannin has already been almost entirely extracted. Even then brandy can not be left indefinitely in wood, for there is a limit to its age. I have seen brandy which, at 60 years of age, had suffered almost complete disintegration. The "bouquet" or flavor had completely disappeared, which would indicate that the process which takes place in the aging of brandy consists of evaporation of alcohol and increase in ethers, aldehydes, and higher alcohols, often out of proportion to the diminution of alcohol, until a certain point is reached, when a seeming disintegration takes place and ethers and higher alcohols gradually disappear.

With regard to solids contained in brandy, there has been much said. The only solid matter that should be found in solution in brandy is tannin derived from the oak, and sugar mixed with the brandy to render it less dry. The best wood for storage of brandy is oak which grows in certain localities near Limoges and also in Hungary. Any oak will not suffice, as doubtless the alcohol absorbs some flavoring oils from the wood. Sugar seems to have a legitimate place in the manufacture of brandy. It renders the liquor more agreeable to the taste when mixed with it as a sirup, and more agreeable to the eye when used as a coloring matter.

It should be understood that the color of brandy is in no way dependent on its age. I have seen brandy 50 years old very pale, and other brandy comparatively new very dark, everything depending on the individual cask and the alcoholic strength of the liquor stored in it. The color of brandy is more or less a question of mode. A few years ago the demand was for brown brandy; before that, for very pale brandy. At present the demand is for an amber-colored fluid.

The quality of new brandy (of the same year) is dependent on the kind or "cru," other things being equal. By a kind I mean a brandy from a certain locality. We have grande champagne, petite cham-

pagne, borderies, fins bois, bois ordinaires, bois communs. In each instance the soil gives to the wines produced from it a distinctive flavor. The quality of brandy, then, is natural. It may happen, however, that a petite champagne is so poorly distilled that a fin bois, which is considered inferior to it ordinarily, is a better brandy. The quality of any particular kind of brandy depends on its age up to the age limit. We have, however, blends of brandy; the merchants mix different kinds or crus of brandy of the same year in such a way as to produce a certain quality which receives their own mark.

It might be well at this point to distinguish between brandies and cognacs. We have a liquor produced principally in Burgundy, which in known as eau-de-vie de marc; we have others, known as armagnacs, from the south of France; we have cognac, which is the product of the distillation of wine grown in the Cognac region, which comprises the departments known as the Charente and Charente-Inférieure. The American consumer who purchases cognac produced in any other country than France is deceived, and it may be safely said that no consumer who is at all accustomed to cognac brandy would mistake another for it. There are what are known as fortified wines shipped from this region for distillation in other countries. The very fact that they are fortified prevents the production of true cognac. The alcoholic degree of these wines is usually 20. The degree of alcohol in cognac brandy does not vary according to the age, but according to the manufacture and the demand. Brandies are mixed with distilled water in order to reduce the percentage of alcohol; otherwise they would be undrinkable. Each country has its particular taste. One desires an alcoholic degree of 48, and another 55 for the same quality.

I do not believe, from what I have seen during eight years in the heart of the brandy region, that the consumption of brandy is conducive to inebriety. Before the police courts cases known as common drunks are never heard of and drunken men are very seldom seen on the streets or elsewhere. The class of people given most to drink are the fishermen, who are not of the country and who drink other liquors than brandy. During nearly eight years' residence at Cognac, I saw but two men drunk; the population of the city is 20,000.

GEORGE H. JACKSON, *Consul.*

LA ROCHELLE, FRANCE, *April 13, 1905.*

COTTON AND WOOLEN GOODS IN AMOY.

(From United States Consul Anderson, Amoy, China.)

While American cottons and other fabrics are doing fairly well in China as a whole, in some of the older ports this is not the case. In the Amoy district in 1904 the falling off in the sale of American goods, compared with goods from other nations, was marked. There may have been reasons for this in the cotton and woolen trade in the United States, but it is quite probable that the strongest reason is that American manufacturers are not making the close study of the Chinese market that they should make. This impression is strengthened by the fact that there were times last year, during the great fluctuations in cotton prices, when the advantage certainly was with the United States. However, the influence of the middleman in Chinese trade is greater than in most countries, and sudden trade fluctuations are not taken advantage of so rapidly.

It ought to be plain to American manufacturers that no matter of how fair quality goods may be, or how cheap, they will not be sold if they do not meet the requirements of buyers. Another fact to be considered in this connection is that certain grades of cotton goods, and to a certain extent of woolen goods also, have been sold in the older ports of China for many years, and have acquired a fixed rating. It is to the advantage of American manufacturers to approach the "chops" or grades of these well-known goods as closely as possible.

With a view of showing what kinds of goods are actually bought, at what prices, and, so far as possible, the origin of the goods, I have prepared the following table of imports of textiles into the Amoy district for the past two years, values being given in American currency:

Imports of textiles into Amoy from foreign countries in 1903 and 1904.

Kind of goods.	1903.		1904.	
	Quantity.	Value.	Quantity.	Value.
COTTON GOODS.				
Shirtings, gray, plain, English:				
Seven pounds and under....pieces..	6,232	$6,630.40	7,715	$181.20
Over 7 pounds and not over 9 pounds..do....	9,598	13,437.20	9,505	15,968.40
Over 9 pounds and not over 11 pounds..do....	11,305	20,575.10	15,165	35,031.56
Over 11 pounds....do....	2	4.20	30	70.70
Shirtings, white, plain, English....do....	52,422	183,477.00	53,525	146,123.60
Drills, 12¼ pounds and under:				
American....do....	537	1,089.90	153	380.10
English....do....	183	345.80	75	122.50
Drills, over 12¼ pounds:				
American....do....	248	345.80	426	1,168.30
English....do....	20	54.60	155	336.00
Jeans, 40 yards, American....do....	29	64.40	9	22.40
T-cloths, 32 inches by 24 yards.				
English....do....	51,338	83,730.50	45,915	61,065.90
Japanese....do....	15,265	13,891.50	5,600	5,684.00
Cambrics, white, 12 yards....do....	400	280.00	205	86.10
Lawns, white, 12 yards....do....	4,213	2,949.10	4,075	2,709.70
Muslins, white, 12 yards....do....	802	478.10	278	233.80
Lenos and balzarines, white, 30 yards ....do....	930	651.00	853	1,104.60

Imports of textiles into Amoy from foreign countries in 1903 and 1904—Continued.

Kind of goods.	1903.		1904.	
	Quantity.	Value.	Quantity.	Value.
COTTON GOODS—continued.				
Printed cottons:				
Chintzes, plain prints, and printed shirtings, not exceeding 30 yards....pieces..	11,894	$15,402.10	16,330	$25,148.20
Drills, furnitures, and twills, not exceeding 30 yards....pieces..	151	602.70	59	123.20
Lenos and balzarines, not exceeding 30 yards, pieces....do....	1,003	2,808.40	1,384	1,985.90
Reversible cretonnes....yards..	2,339	224.70	12,632	984.20
Dyed cottons:				
Italians, plain, fast black....pieces..	9,867	51,110.50	12,632	984.20
Italians, plain, colored....do....	64	147.70	139	491.40
Reps and ribs, plain....do....	302	1,268.40	1,919	6,716.50
Italians, figured....do....	3,276	9,172.80	4,244	16,487.80
Shirtings, figured, brocaded, and spotted, pieces....	12,689	29,311.80	10,787	30,203.60
Drills, 43 yards....pieces..	.....	.....	83	502.60
Lenos and balzarines, 30 yards....do....	3,981	9,195.90	3,986	6,694.20
Shirtings and sheetings, plain, 36 inches by 43 yards....pieces..	4,185	11,718.00	5,517	14,868.00
Shirtings, Hongkong, 20 yards....do....	111	310.80	651	1,367.10
Cuts, 5½ yards....yards..	2,880	324.10	1,634	144.20
Turkey-red cambrics, 25 yards....pieces..	23	48.30	8,313	14,254.90
Spanish stripes, 64 inches....do....	251	485.50	352	1,084.30
Cotton flannel, plain, dyed, and printed, 30 yards:				
English....pieces..	8,172	22,881.60	8,687	23,715.30
Japanese....do....	3,792	7,963.20	2,524	5,565.70
Cotton flannel, striped, 30 yards:				
English....do....	1,046	2,196.60	529	1,092.70
Japanese....do....	3,558	7,461.80	4,127	5,777.80
Crimp cloth, Japanese....yards..	72,570	4,063.50	46,394	3,247.30
Mottles, denims, and mahomedans....do....	244,766	17,133.20	211,356	14,769.30
Mosquito netting....do....	456	133.70	694	97.30
Japanese cotton cloth....do....	23,355	1,143.80	63,891	2,534.00
Japanese cotton crepe....do....	48,762	2,047.50	119,362	4,344.20
Velvet and velveteens, plain, 22 inches....do....	25,094	2,583.70	27,255	3,815.70
Blankets....pieces..	2,698	2,510.90	2,274	1,591.80
Handkerchiefs, plain, dyed, and printed..dozens..	5,862	2,510.90	5,906	1,860.60
Japanese....do....	10	3.50	724	203.00
Towels, honeycomb and huckaback, 18 by 40 inches....dozens..	1,986	972.30	7,565	2,118.20
Japanese....do....	8,124	3,311.70	4,398	1,693.30
Unclassed:				
Cotton goods....yards..	2,644	219.80	18,082	2,127.30
Yarns, gray and bleached—				
Hongkong....pounds..	335,200	36,955.80	92,400	11,812.50
Indian....do....	6,915,466	784,214.20	7,771,700	1,036,361.20
Japanese....do....	60,000	6,822.90	30,000	3,874.50
Thread, in balls....do....	599	165.50	670	304.50
Thread, on spools....gross..	.....	5,070.80	.....	19,005.10
Cord....pounds..	1,200	534.80	2,130	639.10
COTTON AND WOOLEN MIXED GOODS.				
Union and poncho cloth....yards..	6,322	1,327.90	17,482	7,342.30
Union Italian cloth, plain and figured....pieces..	224	1,671.60	262	1,961.30
Flannel....yards..	207	72.80	120	25.20
Unclassed mixtures....do....	1,858	839.30	15,406	5,663.00
WOOLEN GOODS.				
Blankets and rugs....pounds..	11,757	2,468.90	11,641	3,667.30
Bunting....pieces..	7	19.60	8	27.30
Camlets, English....do....	4,245	31,104.60	4,408	35,175.70
Cloth, broad, medium, and habit....yards..	9,093	10,139.10	13,171	13,829.90
Flannel....do....	1,817	381.50	1,765	432.60
Lastings, plain, figured, and creped....pieces..	810	3,402.00	759	4,941.30
Long ells....do....	764	2,919.70	871	3,262.00
Spanish stripes....yards..	21,683	10,624.60	20,783	8,729.00
Tweeds and serges....do....	2,479	1,526.70	3,631	2,178.40
Unclassed woolen goods....do....	2,479	1,526.70	970	400.40
Yarn and cord....pounds..	34,593	15,975.50	40,130	21,372.40
Berlin wool....do....	1,733	880.60	2,270	1,206.80
MISCELLANEOUS PIECE GOODS.				
Canvas....yards..	6,432	765.10	2,635	461.30
Cotton duck....do....	120	13.30	308	53.90
Plushes and velvets, silk-mixed....catties[a]..	853	1,493.10	470	756.70
Silk piece goods:				
Plain....do....	1,769	7,058.80	423	2,688.70
Brocaded....do....	178	757.40	35	98.10
Mixed, plain....do....	82	103.60	878	2,827.30

[a] Of 1⅓ pounds each.

The figures given in the foregoing table are taken from the annual reports of the Imperial maritime customs and the values are those upon which customs duties are assessed.

There can be arguments back and forth indefinitely on the needs of American trade in China, but it is a fact which stands for a world of argument that the countries which have given the most attention to the subject and have spent the most money in studying it are the countries that are selling China the most goods. This is particularly true of clothing and food products and other personal necessities. Chinese standards of living are so different from American and European standards that articles manufactured for Americans and Europeans may be worthless to the Chinese. A few months' work of a cotton expert in China now and then would do the American cotton trade in this part of the world incalculable good.

GEORGE E. ANDERSON, *Consul.*

AMOY, CHINA, *March 17, 1905.*

CALIFORNIA AND FRENCH PRUNES.

(From United States Consul Tourgée, Bordeaux, France.)

The sale of American prunes for the home-grown product has given rise to litigation, in the course of which valuable information has been published as to the exact difference between the California article and the "prune d'Ente" of southwest France.

Experts note dissimilarities of appearance, odor, and flavor, resulting (1) from essentially diverse climatic conditions; (2) from different methods of drying, and (3) from different curing processes, etc. The chief points in the experts' testimony are as follows:

While the prune of Santa Clara has the same general appearance as the prune d'Ente, it is to be observed that the skin of the California fruit is darker, of a more rich and brilliant black—so shiny, indeed, that one would almost think it had undergone some varnishing process. This skin is also thicker, more gummy on the inside, and more impermeable to water, which makes it retain the natural moisture of the fruit and increases the difficulty of drying. In order to soften the skin and facilitate desiccation the prunes seem to have been first plunged in a weak solution of caustic soda at about boiling point, then to have been rinsed in cold water, placed on trays, and exposed to the sun for several days. After this, they are stored in dry, well-ventilated sheds, where they lose still more moisture without getting hard or dull looking. The skin of the prune thus prepared is, without being shriveled, usually one mass of fine, close wrinkles—a condition never found in the oven-dried French prune of good quality.

The flesh of the sun-dried American prune differs from that of the French product. The slow desiccation does not cook the meat, but leaves it a light greenish hue (sometimes tinged with yellow) instead of the light golden or golden brown of the oven-cured prune. It is

also of a more solid consistency than the pulp of the prune d'Ente, and suggests the flesh of the date, being resistant and very sugary, like the flesh of all fruits grown under an ardent sun, compared with that of fruits produced in a damper and more temperate climate.

While the stone of the Santa Clara prune offers no distinguishing peculiarity as to form, it nearly always adheres somewhat to the meat, while on the contrary that of the prune d'Ente loosens of itself, and is often found embedded in the pulp which surrounds it, or may even have pierced the delicate skin. But when the stones of the different fruits are opened their interiors present great variations. The inner surface of the stone of the American fruit is light colored, and suggests the inside of an almond. The little meat it contains is also light colored, and white when broken, and tastes slighty bitter, or has an acrid, unpleasant savor. The meat of the French prune d'Ente, on the other hand, is dark and delicately flavored, and swims in an aromatic natural sirup of exquisite taste, which fills the cavity of the nut. Lastly, the decoction yielded by the American prune, when cooked, is distinctly more highly colored than that resulting from the same treatment of the prune d'Ente.

The parties in this suit, who sold proved American prunes for the French article, were condemned by the court to pay many thousand francs damages, besides other penalties.

ALBION W. TOURGÉE, *Consul.*

BORDEAUX, FRANCE, *April 28, 1905.*

HOP SPROUTS AS VEGETABLES.

(From United States Consul Roosevelt, Brussels, Belgium.)

In the early spring, when there is a great scarcity of fresh vegetables, chicory and spinach being about the only resource of the housewife, tender young hop sprouts are exposed for sale in the Brussels market, and are in great demand during the season, which lasts from March 15 to April 15.

Forced hop sprouts may he had as early as the 1st of March, but they are not as tender and succulent as sprouts cut from the foot of hop plants which have been covered with earth during the winter months. When the earth is removed the tender sprouts are cut, care being exercised to leave sufficient to form new sprouts.

Hops are cultivated in various sections of Belgium, but the hop-sprout culture is confined to the frontier of the Province of Brabant, touching East Flanders. During the season immense quantities of fresh hop sprouts are daily sent from this locality to all the important cities and towns in Belgium, but the greatest part of the product goes to the large canning establishments at Molines, where the sprouts are canned or bottled and exported, as a table delicacy, to all parts of the world.

GEO. W. ROOSEVELT, *Consul.*

BRUSSELS, BELGIUM, *April 12, 1905.*

OLD-AGE PENSIONS IN BELGIUM.

(From United States Consul-General Howe, Antwerp, Belgium.)

Article 9 of the law of May 10, 1900, provided that a pension of 65 francs ($12.55) should be granted to every Belgian workman being in a state of need and having his residence in Belgium who had reached the age of 65 on January 1, 1901. Workmen who were at least 55 years of age on January 1, 1901, were to be allowed the same privileges when they reached the age of 65, but those under the age of 58 at the same date were excluded from the benefit of the grant if for a period of at least three years they should not have made deposits with the Government annuity fund of at least 6 francs ($1.16) a year, forming a total of 18 francs ($3.48).

The qualifications for receiving the annual pension of 65 francs ($12.54) are as follows: (1) The pensioner must be a Belgian subject; (2) must reside in Belgium; (3) must be at least 65 years old; (4) must be or have been a laborer; (5) must be in want. Laborers for the purposes of this act are defined as men and women who work for wages with their hands for a master and are paid for their time or by the piece, and who work on the premises of the master or at home. No distinction is made between the domestic servant, the farm laborer, and the factory hand. Those whose past life corresponds with the above definition are considered ex-workmen. The wife or the widow of a laborer or ex-laborer is for the purposes of this act also considered a laborer. Those are considered to be in need for the purposes of this act whose resources are insufficient to meet their obligations without assistance, and to establish this qualification the following circumstances are taken into consideration: (1) The wages of the interested person, of his wife, and of his children and his relatives living with him; (2) the value of their personal property and of the premises which they rent; (3) the nature of their savings, if any; (4) the amount of public charity received, etc.; (5) the cost of housekeeping compared with that of the other laborers in the same trade and in the same neighborhood, taking into consideration the number and age of those who compose the family; (6) the care of the infirm and sick; (7) rent, taxes, etc.

All foreigners, no matter what may be the legislation of their country or the length of their residence in Belgium, are excluded from the benefits of this law, unless they have become naturalized. However, a foreign woman who marries a Belgian becomes a Belgian subject and remains such even after the death of her husband, so long as she resides in Belgium.

All who solicit the old-age pension must make their request in writing to the burgomaster of their city, town, or village before January

1 of the year during which the pension is to begin. The application must give the name, age, nationality, profession, and residence of the person, as well as a full description of his financial circumstances. The burgomaster will then refer the application to what is known as the committee of patronage, a local body which has under its supervision all matters relating to workmen's habitations and charitable institutions. It is the committee of patronage which decides upon the merits of all applications, and which advises the applicant and the governor of the province of its decisions. From the finding of the committee there is an appeal to the governor of the province. The final decisions are transmitted by the governor to the minister of industry and labor at Brussels, and the bureau of labor orders the pay ment, which is made in two installments of 32.50 francs ($6.27) through the local post-offices, where the beneficiaries must appear in person and sign their receipts. The old-age pensions are paid by the national treasury from the budget.

The department of commerce and labor sends to the burgomasters during the month of January of each year a list of the persons residing in their districts who receive the pension. The burgomaster notes on his list all deaths and changes of residence, and any change in the financial circumstances of a pensioner which may have taken place. If the condition of the pensioner is found to have improved during the year and he is able to maintain himself, the pension ceases.

This pension of $12.54 per annum does not prevent the pensioner from receiving further relief from the board of public charity. No person of the age of 65 may be considered in want whose revenue for his own use amounts to $70 per annum, and no married couple of the age of 65 can be considered in want and receive benefits under this act whose joint income amounts to $120 per year. Employees of the State, especially postmen, rural police, etc., who are pensioned by the treasury can not be considered as laborers under this act, but those having been employed by the Government railway may be so considered.

The present number of old-age pensioners now on the list and receiving aid from the Belgian Government is something over 200,000.

CHURCH HOWE, *Consul-General.*

ANTWERP, BELGIUM, *April 20, 1905.*

PAPAYA JUICE.

(Extract from the annual report for 1904 of United States Consul A. J. Lespinasse, Tuxpam, Mexico.)

Papaya juice is extracted from the fruit of the papaw tree, which grows rapidly, attaining its full bearing capacity in a year. It produces from 40 to 50 papaws of a dark green color, ripening to a deep yellow, in shape resembling a squash. A very light superficial incision

is made in the fruit, from which exudes a clear water-like juice, which, on exposure to the air, becomes opaque. As it drips from the fruit it is received in a porcelain-lined receptacle. As it is very corrosive, metal receptacles would injure its appearance and qualities. It possesses great digestive virtues, and the refined article is considered superior to all animal pepsins.

After the desired quantity has been collected the juice is placed in shallow porcelain or glass lined pans and allowed to evaporate. While this is not a very delicate or difficult operation, it requires considerable attention, so that the juice will dry uniformly and the product be white and well granulated. In its granulated state it is shipped to the United States, undergoes a refining process, and is sold as the papaw of commerce for medicinal purposes.

The ripe papaw is palatable, and an excellent aid to digestion. Meat wrapped in papaw leaves for a short time becomes quite tender without any impairment in appearance or taste.

In extracting the juice the hands should be protected by rubber gloves, as in its crude state it attacks the tissues. An average tree will produce about one-fourth of a pound of the granulated juice. It sells in the United States for from $4 to $6 per pound in the crude state.

MUNICIPAL OWNERSHIP IN CANADA.

Under date of April 12, 1905, United States Consul-General W. R. Holloway, Halifax, Nova Scotia, transmits the following:

The Ottawa city council has decided to buy out the Consumers' Electric Company of that city for $200,000.

City Engineer Rust has given a somewhat detailed estimate of the cost of a municipal electric plant for the city of Toronto. The cost of installation of an underground system would be $638,000. The expense of operation would be $40 a lamp, and other charges would be, interest and depreciation $38.30, and insurance $2 per lamp, making an aggregate annual cost of $80.38 per lamp, compared with $74.82, the cost of each light under the present agreement with the Toronto Electric Light Company. An overhead circuit would reduce the cost per lamp per annum to $71.30.

The city council of Calgary, Northwest Territories, took final action in establishing municipal ownership of the lighting plant of that city a few days ago, when tenders were opened, and R. S. Kelch, Montreal, was designated as a consulting engineer to determine which of the bids made should be considered the most economical. Competent engineers have declared that Calgary can install for $60,000 the plant required for both domestic and street lighting.

OXYGEN FROM LIQUID AIR.

(From United States Consul-General Guenther, Frankfort, Germany.)

On March 28 Prof. F. Linde, of Munich, delivered an address before the Technical Society of Frankfort with reference to the manufacture of oxygen from liquid air. Among the numerous methods for making oxygen he said only two so far had been of practical use, namely, the baryta and the electrolytic method. The extended technical use of oxygen so obtained was prevented, however, by the high cost of manufacture by both processes.

The father of the lecturer has succeeded in finding a new method for making oxygen. If liquid air is allowed to evaporate slowly, nitrogen evaporates first, and then oxygen. The liquid remaining after evaporation contains therefore a higher percentage of oxygen than before evaporation. Through repetition of such evaporation a liquid is obtained which contains about 71 per cent of the oxygen of the air. Rectification permits of a further separation of oxygen. Through this process, which finds analogous employment in other fields of chemical industries, up to two-thirds of the oxygen contained in the air can be obtained in its pure state, or about 14 cubic meters (494.4 cubic feet) of oxygen from 100 cubic meters (3,532 cubic feet) of air. By simple distillation, however, almost all the oxygen is lost.

Through a proper supplementary process it is also possible to obtain pure nitrogen.

The cost of production for oxygen by the method of Mr. Linde is about 4.5 pfennigs per cubic meter (1.07 cents per 35.316 cubic feet), and therefore is less than for ordinary gas. Oxygen is used in medicine and in the industries for obtaining very high temperatures and for making water gas. There is a large field for the use of oxygen for lighting purposes. A Welsbach burner, fed with ordinary gas and oxygen, requires of each gas only one-fourth of the quantity required when ordinary gas alone is used. This would mean a saving of 50 per cent of the cost. The difficulty exists, however, that it is necessary to have separate pipes for the oxygen.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *March 29, 1905.*

INTERNATIONAL AGRICULTURAL INSTITUTE.

(From United States Consul Covert, Lyon, France.)

It has been announced by the French minister of agriculture, Mr. Ruau, that a widespread interest is being taken in Europe in the proposition, made some time ago by the King of Italy, to establish an inter-

national agricultural institute. In France the idea has been received with much enthusiasm. The French bureau of agriculture is really a center of information for all branches of farming in France and Europe, and the creation of an international agricultural institute would be but little more than an expansion of an already existing society.

Mr. Ruau says that this international institute will resemble a customs union, and that it may be the forerunner of a closer union of the States of Europe. Its purposes, according to this gentleman, will be (1) the centralization and publication of all information in which farmers are interested; (2) the comparative study of technical and economic questions of interest to farmers, and (3) the drawing up in the form of a petition of documents to be presented to the different governments upon measures required for advancing the interests of farmers. Mr. Ruau says that the institute will take great care, however, not to interfere in the internal politics of any of the countries represented in it. He adds that each country will be called upon to make an appropriation to defray the expenses of the members of the institute, the printing of the reports, etc.

JOHN C. COVERT, *Consul.*

LYON, FRANCE, *April 21, 1905.*

BUSINESS OPPORTUNITIES ABROAD.

(From United States Consul-General Guenther, Frankfort, Germany.)

Argentina.—The Empresa del Ferrocarril del Sur, in Buenos Aires, will purchase a large number of freight cars and other railroad rolling stock.

The Direccion General de Obras de Salubridad de la Nacion, in Buenos Aires, will receive proposals for erecting works to supply water to Catamarca. Estimated cost, $416,094.

Austria-Hungary.—An assembly building (casino) is to be built at Abbazia, to cost $160,000.

The Austrian naval arsenal at Pola will receive bids for supplying four steam boilers. Specifications can be obtained from the war department at Vienna.

The municipality of Prerau will build a number of electric tramway lines.

The municipality of Freudenthal, Silesia, invites bids for supplying drainage pipes, etc., for its new sewerage system.

The Banca Cooperativa, in Trieste, is financing a new tramway line which is to run between Riva and Trent.

Gasometers will be constructed at Mediasch, Hungary.

Belgium.—The Direccion du Service du Nettoyage de la Vorie, at Brussels, will receive bids to furnish 20 four-wheeled dust wagons.

Bids for building a viaduct are invited by the Société Nationale des Chemins de fer Vicinaux at Brussels.

Brazil.—The city of Nictheroy has resolved to install electric lighting, and will build two market halls and a public bathing establishment.

British India.—The Great Indian Peninsular Railway Company, at its office, 48 Copthall avenue, London, England, will receive bids for railway materials of various kinds and for tickets.

British South Africa.—The railway department of Cape Colony intends putting 6 motor cars in service on branch roads of 2 feet gauge to transport passengers and luggage. Two of the cars are to be equipped with 25-horsepower petroleum motors.

Bulgaria.—The Government of Bulgaria contemplates the purchase of 5,000 plows for Bulgarian agricultural associations.

Denmark.—The city of Copenhagen contemplates building a floating dock for the largest vessels.

Germany.—Extensive works for manufacturing briquets (pressed coal blocks) are to be erected at Emden by the Rhenish-Westphalian coal trust.

Ireland.—The port and docks board of Dublin will receive bids for constructing an electric power station.

Italy.—In connection with the International Exposition which is to take place next year at Milan, a hygienic exhibition will be held. American manufacturers of sanitary fittings, bathing appurtenances, and surgical apparatus will do well to show what the United States supply in these lines.

The municipality of Pallanza has decided to have an electric tramway line built to Fondotore.

Japan.—The Japanese navy department purposes the erection of a briquet (pressed coal) manufacturing plant on an extensive scale, to utilize the coal dust of the Yamaguchi mines.

Mexico.—The Compania Hidro-Electrica queretana has received a concession from the Mexican Government to utilize the Rio de San Juan del Rio for electric purposes. The erection of a dam and large power station is projected.

Netherlands.—The Tramway Naatschappij De Meyery, in Eindhoven, is to build a tramway from that town to Asten.

A company has been organized to establish a railway line between Doesburg and Lobith. Application should be made to the municipality of Doesburg.

Gasometers will be contracted for by the municipality of Vlaardingen.

Norway.—Styrelsen's Expeditions-Kontor, in Christiania, wants to purchase 1,300 tons of steel rails and other railroad materials.

Spain.—The Junta de Obras del Puerto, at Almeria, will expend $1,000,000 on harbor improvements.

The Direccion General de Obras Publicas, at Madrid, has granted a concession for the construction of two steam tramways at Granada.

The Sociedad Anonima Tranvias, in Malaga, intends to introduce electric traction on its tramway lines.

Sweden.—The city of Malmoe is to issue a loan of $1,890,000, to be expended on public works, among which is a dry dock 500 feet in length.

The city of Stockholm is negotiating a loan of $13,400,000, which is to be spent in public improvements.

Switzerland.—The cantons of Schwyz and Zurich contemplate the construction of works for utilizing the water of the Sihl River for the creation of electric energy.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *May 3, 1905.*

TRADE OPENINGS IN AUSTRALASIA.

Under date of April 26, 1905, United States Consul James A. Worman, Three Rivers, Quebec, transmits the following information, embracing reports from the Canadian commercial agent for New South Wales, Queensland, and New Zealand, relative to trade opportunities in Australasia for Canadian products:

APPLES.

By the last steamer from Vancouver two parcels of apples came to hand. Fortunately they were carried in cold storage, and arrived in such fine condition that it was not necessary to pick them over. All sold promptly and at high prices. The varieties shipped were Northern Spy, Baldwin, and Wagner. Buyers placed them in the order as given in point of carrying and marketing. The Northern Spy was always placed first, but there were differences of opinion respecting the merits of the Baldwin and the Wagner, and statements were made that neither should be shipped. The only objection to the Northern Spy was its size, much of the fruit being too large for this market. What is required are medium-sized and well-colored apples, 2¼ to 2½ inches in diameter, and packed five tiers in a bushel case.

There is no question that there is a market in Australia in November and December for over 5,000 bushel cases, netting in Vancouver $1.25 to $1.75 a bushel. It is doubtful if British Columbia can supply this quantity in time for early November and December sailings, but Ontario can do so, and if packed and shipped in refrigerator cars across the continent and in cold storage across the Pacific they would carry safely. The cost of cold storage is but 6 pence (12 cents) a case additional, and this cost is repaid fourfold in the value of the fruit on its arrival here.

AGRICULTURAL MACHINERY.

Concerning agricultural machinery, the same agent reports that Canada controls the lion's share of the trade in cultivating and har-

vesting machinery, but not in other farm machinery. Failure to ascertain the needs of the country and supply such goods as would prove available is not a shortcoming of American manufacturers alone. The agent writes:

I received catalogues from Canadian manufacturers, but pointed out it was useless to expect the machines to be successful here without being specially fitted for the conditions. An enterprising firm sent out to New Zealand seven years ago a traveler with a number of fanning mills, but he found, as I advised, that the machines would need to be reconstructed. A company was formed which made the needed changes and it is now doing business in New Zealand and southern Australia, but so far as I am advised it has not yet entered this State.

The thrasher commonly used here is the English beater drum. It is effective but heavy, and some of the roads demand a lighter article. A large agriculturist has determined to try the American form of thrasher. He offered the order to a Canadian firm, but it was unable to undertake the delivery of the machine in time.

DRIVING ENGINES.

Canadian engines are used for driving sawmills, but I have seen none employed on the farms and for general traction, although many from England and some from the United States are used. A Canadian firm sent out an expert with two or three engines, and he found that with certain changes to fit them for the rough roads and tracks on which they would have to be used—the substitution of steel for cast-iron driving wheels being the chief one of these changes—there would be a good demand for them. Their higher speed enabled lighter engines to be used to better effect than those now generally employed. Unfortunately nothing has been done since. In this as in the case of many other lines the machines must be introduced by a specialist who thoroughly understands how to work them. A failure or two through defective handling at the outset would condemn the machines and stop sales.

AGENTS AND QUOTATIONS.

Every mail brings inquiries respecting the possibility of finding a market for Canadian goods, but commonly neither catalogues nor prices, and still more rarely samples and discounts. As a consequence it is almost impossible to get a good firm interested, and then there is a delay of three months waiting the necessary information.

Very many lines, such as plows, pianos, etc., will require an expert to introduce them. Here and there can be found a firm which will order a sample to test it, but such firms are commonly not financially strong. Good firms are necessarily conservative; otherwise, in a market like this, for which the world caters, a stock would be little more than samples. In no case would samples be ordered unless there was supplied such information as would enable the buyer to get a fair knowledge of the article and the cost landed here. Even where prices are given, not one case in five hundred are they given in such form that the landed cost can be arrived at.

Quotations must be given laid down in New York or at ship's side in Sydney or other Australian port, via Vancouver. Commonly both

should be given. It prejudices a firm when such information can not be given. The conclusion of the Australian buyer is that a house which will not take sufficient pains to supply such a requisite fact is not likely to do a trustworthy export business.

CARRIAGES.

In my September monthly report I referred to complaints made by intending purchasers of Canadian buggies to the scant width of the seats on rigs not built to Australian specifications. This objection can be readily overcome at little extra cost, and manufacturers should, in their own interests, endeavor to produce what is required in this country.

In one of the largest carriage show rooms in Melbourne I recently made comparisons between the Canadian and Australian buggies of similar design, and found that the seats in the former averaged only 29½ inches at the cushion, whereas the seats in the latter averaged 33 inches, although in many instances seats are made up to 38 inches inside measurement.

Canadian manufacturers of carriages making shipment to Australia should use every effort to obtain the lowest inland freight rate from factory point to port of shipment, and the lowest marine freight from shipping port to destination. The item of freight is probably the most important one in computing the landed cost in Australia of Canadian carriages, etc. An ordinary buggy, when properly packed, measures about 85 feet, the shafts about 10 feet, making a total of 95 feet, or, say, 2⅛ tons. Recent steamer freights from New York on carriages were quoted at 15 shillings ($3.65) per ton, thus making the cost of marine freight on each buggy about $8.51 to Melbourne. The question is, How often do Canadian carriage shippers secure such low rates? Too frequently, I fear, no attention is paid to this important item, which is left to the mercy of irresponsible shipping agents at New York, and the landed cost of the goods is thus increased considerably.

INCUBATORS AND BROODERS.

A sample shipment of Canadian incubators and brooders has recently been cabled for by a Melbourne importing company. If these goods turn out up to expectations there is every prospect of a considerable trade being done in this line.

WHERE TO SECURE MARINE FREIGHT RATES.

Before shipping goods to Australia I strongly urge manufacturers to communicate with the New York agents of the four lines of steamers trading to this country. The growth of Canadian trade with Australia is very materially handicapped by shippers not taking an intelligent interest in securing the minimum freights from factory to destination. There is no good purpose served in quoting goods at low prices when the excessive importation charges place the landed values outside of competition. Every dollar saved in freight means that the goods are landed here at so much less cost, and this saving creates a greater demand for Canadian manufactures. Sailing dates and lowest freight rates can be obtained for Australian ports from the following addresses:

American and Australian Steamship Company: Messrs. Norton & Son, Produce Exchange, New York.

United States and Australasia Steamship Company: 11 Broadway, New York.

Tyser Steamship Company: Messrs. Funch, Eyde & Co., Maritime Building, New York.

The White Star Steamship Company: 9 Broadway, New York.

ENLARGEMENT OF THE PORT OF ANTWERP.

(From United States Consul-General Howe, Antwerp, Belgium.)

The sudden decision of the Belgian Government to adopt the new plans for enlarging the port of Antwerp has come as an agreeable surprise to the shipping world. For the past twenty years the necessity of enlargement has been recognized by every interested party, but during that time it has been impossible to agree upon a plan of extension to satisfy everybody interested. Some ten years ago two parties were formed, one advocating the enlargement by centralization, that is to say, by constructing docks and basins on the left bank of the river Scheldt at the Tête de Flandre, opposite the center of the city of Antwerp, the other clamoring for an extension at the north of the city, the cutting of an entirely new bed for the river Scheldt, and the conversion of the old bed into a vast basin.

To the plan for extending in the direction of the Tête de Flandre interprovincial obstacles were raised. The Tête de Flandre is in Flanders, and it would be of little use to that province were the province and city of Antwerp to purchase the land necessary for the extension. On the other hand, Antwerp did not see the advantage of spending money on the territory of another province which would reap all the benefits. That the extension is an urgent necessity is more strongly demonstrated than ever, and during the past few years much valuable time has been lost in discussing multitudes of projects. In the meantime tonnage has been increasing until Antwerp has become the third port of the world, and it is with difficulty that berth room or anchorage is found for the incoming traffic.

For the past two years little has been heard of the extension projects and the Government has been accused of procrastination, until, on Friday, April 14, the news was announced by the minister of finance, Count de Smet de Naeyer, that after a careful and laborious study of two years the Government had elaborated a scheme that would give satisfaction. Its execution will cost something like 250,000,000 francs ($49,250,000) and, it is estimated, will take ten years.

The plan now adopted is far more elaborate than that first chosen by the Government, although it comprises all the original proposi-

tions which, some years ago, received the approbation of eminent engineers of both hemispheres, notably those who had charge of dredging in the Mississippi River. In fact, I have been informed that in carrying out the cutting of the new river bed the Government will probably use the same type of dredging machine employed by the American engineer, Bates, in dredging the Mississippi, which has been generally recommended by most of the engineers on account of the rapidity of its work.

Eleven years ago an eminent engineer who took a prominent part in the Antwerp International Exhibition of 1894 stated that the plan for cutting the new bed was minutely examined by the jury of which he was a member, and which was composed of competent engineers from all parts of the world. Opinion, he said, was unanimously in favor of this scheme, and it was furthermore agreed that the rectification of the course of the Scheldt was an absolute necessity, owing to the constant danger of the present river bed becoming blocked by the movable sand banks. This opinion has now become more general, although at first it was earnestly opposed by the municipal authorities of Antwerp. It is now claimed, however, that by diverting the course of the river and giving it a deeper bed all chances of shifting sand banks will be avoided, and that the present dangers to navigation caused by the sharp bends in the river will be entirely overcome.

The immediate necessity for prompt action was very keenly felt as far back as 1897, when the city of Frankfort-on-the-Main commenced a campaign against Antwerp and in favor of Rotterdam. The Frankfort Chamber of Commerce urged certain members of the Reichstag to advocate the withdrawal of the proposed stipulation in the German postal contracts with the North German Lloyd Company that the steamers of that company must call at Antwerp and Rotterdam, holding that the call at Rotterdam was sufficient. There was no doubt at the time that the Rhenish provinces were and that they still are afraid of the competition of the port of Antwerp, and inasmuch as Holland is not an industrial country and does not compete with them, they were looking for an opportunity to favor Rotterdam at the expense of Antwerp. The reason for this is clear. Belgium is encroaching upon German trade; she is supplying the markets of the Far East to a great extent, and the management of the North German Lloyd sees that it is to its advantage for its steamers to call at Antwerp and carry away the thousands of tons of dead weight cargo that await them.

The Frankfurter Zeitung at that time published erroneous statements detrimental to the port of Antwerp. The Antwerp Chamber of Commerce took the matter up and called the attention of the Belgian Government to the unjustifiable attack. A full report, proving the misrepresentations of the Frankfort Chamber of Commerce, was published in Germany and sent broadcast throughout that Empire, putting confusion the detractors and serving as a huge advertisement for

the port of Antwerp. The Rhenish deputies, however, still held to their purpose and tried to strike a blow at Antwerp, but the special committee appointed by the Reichstag to examine the question of postal subsidies voted by 10 to 2 in favor of calling at Antwerp. The Reichstag upheld the vote of its committee. So far, then, Antwerp has held its own. But the Government understands fully that on the least excuse for complaint her rivals will jump at the opportunity to proclaim the superiority of Rotterdam, and that it behooves it to see that the port of Antwerp's maritime facilities are and remain such as to defy all European competition.

While the great plan of extension has been under examination, the Government has added 6,500 feet of new quays on the south river front and has begun work on new docks to the north of the American and Lefebre docks, with direct communication by a new sluice into the river at the Austruweel bend, leading from the Lefebre dock, and allowing the admission of vessels drawing 28 feet of water. On the completion of these docks, known as the intercalary docks, vessels will no longer have the annoying, roundabout journey through the Kattendyk, but will be able to enter the northern docks directly from the river, an improvement which will relieve the traffic to a very great extent.

Now comes the new and vast extension project, which incorporates the new docks above referred to, and which will at least triple the area of the port of Antwerp and make it larger than any port in existence, giving it 60 kilometers (37.3 miles) of running quays.

The Government project provides first for the cutting of a canal, forming a quarter of a circle, entering the river at the Kruischanz, a point just above the town of Lillo, and joining the dock system at Antwerp by entering the northwest wing of the new intercalary docks in course of construction to the north of the present Lefebre dock. Extending inland from the right bank of the canal will be nine open basins. This canal will be of gigantic proportions, more than 5 miles long and 815 feet wide. The canal will enter the river at the Kruischanz by three sluices, 975 feet long, 98 feet wide, and 39 feet deep. The open basins along the right side of the canal will be 3,900 feet long by 650 feet wide. Near the canal sluice gates there will be a circular open basin 1,625 feet in diameter. Dry docks 812 feet long will also be constructed on the same side of the canal.

When the canal is completed the work on the new bed of the river will be commenced. The new bed will begin at a point above the Kruischanz, and the new canal will reenter the present bed of the Scheldt just above the Austruweel bend, between the new grain warehouse and the Rhine quay. During the damming of the old bed of the river the new canal will insure navigation, so that at no time will there be an interruption of traffic. Engineers say that with the modern rapid dredging and excavating machinery the work may well be com-

pleted in ten years. The great island formed by the new and the old bed of the Scheldt will absorb the villages of Austruweel, Oorderen, and Willmarsdonck, which will cease to exist, and the land will be available for all kinds of industry, and might well be used for the establishment of the free port so frequently clamored for by the Antwerp trade.

As to the execution of the project, the Government has consulted the most eminent engineers of the world, who have announced it to be quite practicable. The great obstacle admitted when the new cutting was first mooted, the danger of interrupting navigation during the work, is now entirely overcome by the addition to the original project of the vast canal and system of open basins. As to the financial questions, the minister of finance has given the city the assurance that the Government will advance all the funds required and that when matters are definitely settled the city will be given all the time it requires to take up its share of the burden on the easiest terms. The Government's proposition is magnanimous, and leaves no obstacle in the way of the execution of the plan.

CHURCH HOWE, *Consul-General.*

ANTWERP, BELGIUM, *April 19, 1905.*

INVOICES AND SPECIFICATIONS FOR RUSSIAN CUSTOMS INSPECTION.

Under date of April 11, 1905, United States Consul John E. Kehl, Stettin, Germany, transmits the following translation of the regulations issued by the minister of finance on September 9, 1904, for the acceptance of invoices and specifications on the part of the Russian customs officials for the inspection of foreign merchandise:

1. The accepting of invoices and specifications for the purpose of examining foreign merchandise (paragraph 1 of article 10 and articles 13 to 20 of the Imperial decree issued May 15, 1901, regarding inspection, collection of duties, and delivery of foreign merchandise) at the Moscow customs department, at St. Petersburg, Odessa, Riga, and Reval, is hereby sanctioned.

2. The invoices and specifications are to be executed in the customary commercial way; if, however, they do not contain sufficient information and details for inspecting purposes; that is, if the invoices fail to give an exact description of the style and quality of the merchandise and the exact gross and net weights, or if in certain cases the exact measurement or quality is not given, they can not serve as a foundation for inspection. In such cases the inspection will proceed upon the declaration issued by the owner of the merchandise, which, according to article 46 of the regulations of May 15, 1901, he is compelled to file in place of the original invoice, which will be returned, or the inspection will be made in accordance with article 47 of the above-mentioned regulations.

3. The invoices and specifications should, in accordance with article 18 of the regulations of May 15, 1901, bear the necessary written declaration, and should be executed in duplicate. The one copy must, in accordance with paragraph 1 of article 13, in all events bear the signature of the representative of the firm executing it, or the seal of the firm. In case the second copy is not executed in accordance with the above-mentioned requirements and is not an exact copy of the original, the identity of both copies must be sworn to, and both must bear the signature of the person or firm depositing them or the owner of the merchandise.

4. Invoices and specifications written in the French or German language will be accepted by the customs officials without being translated into the Russian language if the invoices or specifications do not contain technical terms or words of local use[a] which might cause considerable trouble in being correctly translated. In such cases the customs officials have the right to demand a translation of the words or parts of the invoice containing local or technical words or terms. If specifications and invoices are in any other than the German or French language the customs officials can, at the time such specifications or invoices are handed in, or upon their receipt through the mail (article 19 of the regulations of May 15, 1901), demand from the owner of the merchandise a sworn translation of said invoices or specifications to be filed within the limit of time prescribed in articles 56 and 57 of the regulations of May 15, 1901. On the other hand, the owner or importer of merchandise has the right in every case, for the purpose of hastening the inspection, of depositing a certified translation of the invoice and specification.

5. If the customs officials do not ask for a translation of the invoice or specification, and if the owner of the merchandise does not, of his own initiative, hand in a translation (in accordance with paragraph 4), the customs department is bound to make a translation of those parts of the invoice or specifications which refer to the nature and quantity of merchandise, and to reduce the foreign weights and measures to the Russian equivalent. The translation of that part of the invoice referring to the merchandise can be noted on the invoice or specification in colored ink, or on a separate sheet of paper. For the translation of invoices containing many different articles, it is recommended that the customs officials use the following form:

Translation of the contents of the invoice (or specification) of ————, *as filed with freight document* ————.

The invoice (or specification) was dated ————, executed for customs purposes ————, filed by ————, with declaration No. ——.

CONTENTS OF INVOICE (OR SPECIFICATION).

Number of parcels, marks, etc.	Nature of merchandise.	Weight, measure, or quantity.	Remarks.

If in the invoice or specification the total weight given for each article can be "lumped," then only the sum total need be reduced to

[a] Such terms as are used only at the place of manufacture or export.

Russian weight, and not the figures for each article; of course the sum total on each document must be proved.

6. Translations of invoices and specifications asked for by the customs officials, or filed of own accord, must be by them examined and compared with the original as to the correctness of the translation. In the event that errors are discovered in the translation, it will then be brought before the general board of customs officials for action in accordance with article 291 of the regulations of May 15, 1901.

7. After the examination of the submitted translation, or the completion of the translation by the customs officials, it is then to be compared with the bills of lading or freight bills to determine whether all regulations have been complied with. The invoices and specifications that do not in every respect comply with the established regulations are to be returned, and the reasons for returning them—such causes as are noted in article 2, or if the documents can not be read, or if on the invoice the weights are given in figures without the unit of weight being given—are to be noted on the invoice or specifications.

8. If invoices or specifications are composed of several sheets, they are to be fastened by the customs officials with string, and both ends of the string are to be placed under a seal. The same regulations apply to copies and translations (paragraphs 3 and 4).

9. After invoices and specifications have been accepted, they will be proceeded with in the regular prescribed way.

ALGERIA A MARKET FOR CUTLERY.

(From United States Vice-Consul Heldt, Solingen, Germany.)

In spite of the endeavors of France to prevent, by high duties, the importation of foreign goods into its colonies, German and English cutlery has been finding a good market in Algeria.

The class of goods in demand there is about the same as is used in Europe. In the province of Algiers, for instance, all sorts of knives are sold, with the exception of desert knives, which have not been asked for. Pocketknives and scissors are sold in all grades and styles, principally, however, the cheaper ones. Razors from the cheapest to the highest in price are taken. Fruit knives, pruning knives—preferably those made entirely of steel, without wooden handles—cutting-out knives, etc., find a ready sale. Of table knives the so-called "Yatagan" style is mostly desired; some are sold in round but very few in pointed. Blades should be 2 centimeters (0.79 inch) wider than the handles. Metal-handled knives do not seem to be looked upon favorably.

The French method of packing the goods is the most advisable. Table knives are usually sold in small boxes, each box containing 12 knives.

The best way of selling the goods is to contract directly with the customer, or through agents who are direct representatives of the selling firm. Prices should be made f. o. b. Algiers, in French cur-

rency. Terms are, as a rule, 2 to 3 per cent discount for cash in thirty days, or ninety days net.

In the province of Oran hardly any but French goods have thus far been sold. Factories there make very little for home consumption, so that there is quite an open market for foreign competition. The class of goods asked for is about the same as in the province of Algiers. Table, dessert, carving, and fish knives are usually wanted according to a certain pattern. Forks and spoons, often made of silver-plated metal, are, as a rule, different in pattern from the knives. Table knives which find the best sale are the so-called French form, with a blade of medium width. Pocketknives with numerous blades, corkscrew, etc., not too high in price, find a ready sale. Razors and scissors of various styles are chiefly demanded in the better grades. Goods are bought here (Solingen) f. o. b. factory; terms, three or four months from date of invoice, with 2 per cent discount for cash in thirty days. Offers can be made directly to notion dealers, bazaars, dealers in arms, etc.

Conditions in the provinces of Bone, Bergie, Mostagonem, Tlemeen, and Philippeville are about the same as in the two provinces previously named, but, because the customers there are chiefly Italians and Maltese, the cheaper grades of goods are mainly demanded.

Should names of firms in Algiers or Oran be desired, a number of them could be furnished upon request.

VICTOR W. HELDT, *Vice and Deputy Consul.*

SOLINGEN, GERMANY, *April 17, 1905.*

LAWS FOR SAFEGUARDING THE WORKING PEOPLE OF BELGIUM.

(From United States Consul McNally, Liege, Belgium.)

The Monitor, the official organ of the Belgian Government, has just published a decree prescribing the precautionary measures to be observed by owners of workshops to safeguard the health of the employees and to provide against accidents to them. The provisions of this decree must be observed in all workshops where the conditions will permit, and in all commercial enterprises subject to the law of December 24, 1903, relating to compensation for damages to workmen in the exercise of their usual and ordinary labor. For mines and quarries of all kinds special regulations are promulgated. In small workshops, where a man works with his family alone, these provisions are not enforced.

In the ordinary workshop which the decree is intended to cover, each workman must have a free space of 10 cubic yards. The shop must have a height of 3 yards, and must be ventilated in a thoroughly

sanitary way. Certain prescribed apparatus must be used to supply fresh and draw out vitiated air. This apparatus must have at least a capacity of 30 cubic yards an hour for each workman. In manufacturing establishments where the work is unhealthful, the capacity of the apparatus for renewing the air must be at least 60 cubic yards per hour for each workman. This apparatus must be arranged so that it will not in any way discommode or interfere with the workmen employed within the establishment.

Workshops or manufacturing establishments existing and in full operation before the issuance of this decree, the various rooms or departments of which could not be changed to comply with it without great expense or stoppage of work while the arrangements were being perfected, are allowed to continue on condition that (1) the working personnel of the establishment shall not be increased; (2) no toxic or other unhealthful materials shall be manufactured; (3) owners of such manufacturing establishments must indicate to the proper authorities the nature of the work, the location, and the number of workmen employed, as well as the reasons for asking the indulgence. This declaration must be made within the year following the publication of the decree.

The owners of all establishments shall provide against the escape of gas or the existence of odors, vapors, or dust that might in any way affect the health of the workmen. All shops shall be conveniently and systematically lighted, so that the workmen may be enabled to follow their employment without danger to their sight. All necessary precautions shall be taken to keep the air pure and to avoid the overheating of shops. During the winter the workshops must be conveniently and sufficiently heated, and in summer provision must be made against high temperature. The heating or lighting apparatus shall be placed so as not to discommode or injure the workmen by reason of its proximity.

The waste, residue, sweepings, and other accumulations shall be removed daily and destroyed. In establishments where the work is unhealthful the workmen must not enter or leave the workshop in the same clothing worn during employment. A cloakroom, with washstands and other necessary accommodations, must be established for the use of the employees. The heads of manufacturing enterprises must prohibit the carrying or eating of food within rooms where toxic materials are being manufactured. The water used, whether it be for drinking, spraying, or manufacturing purposes, must be pure.

The decree contains further provisions to guard the workmen against the influences of vapors or odors of any kind and against accidents from machinery, and to assure the solidity of the buildings and the absolute security of everything pertaining to the place where workmen are employed. Particular attention is drawn to the safety

of ladders, wells, and staircases, and to precautions against fire. The introduction of alcoholic stimulants into the workshops or any part or place accessory to them is absolutely forbidden.

In a word, every precaution is demanded that will in any way protect the health of the Belgian workmen or lessen their liability to injury. The solicitude of the Belgian Government for its working classes is to be highly commended, and the fruit of such devotion is evident in the disposition of the workmen and their tendency to remain with the same employers throughout their lives.

JAMES C. MCNALLY, *Consul.*

LIEGE, BELGIUM, *April 17, 1905.*

SHIPPING ON CHINESE COAST.

(From United States Consul Anderson, Amoy, China.)

Shipping is reported very dull along the Chinese coast at the present time. There are several companies doing business between Chinese coast ports, and all of them have the same story to tell. One company has within the past few months sold three of its fleet of five vessels, some of them going to the Japanese Government. The company doing the largest transportation business is said to have eleven steamships idle in Swatow and Hongkong harbors at the present time.

The result of this idleness, of course, is that freight rates are below a profitable point, and there is considerable anxiety as to the outcome of the situation. In the tea season and as soon as the ports of the northern coast are open after the winter season, all of these vessels will probably find profitable employment. The problem is really not so much one of a year's business as it is to properly distribute the business so that it can be handled speedily and profitably.

There is still considerable business done in the old-fashioned Chinese junks, but modern steam vessels have gradually supplanted them, and the coast trade of China at the present time is fairly well served, all things considered. There is an understanding among the several companies with respect to territory served, the ports of the lower coast being divided among them, so that there is practically no competition in the service to any port. Passenger rates are rather high, but freight rates are exceedingly low, largely because of the excess of tonnage over the volume of freight.

One feature of the transportation situation all over China is the disposition of the Chinese authorities to favor Chinese capital in such matters as compared with foreign interests.

GEORGE E. ANDERSON, *Consul.*

AMOY, CHINA, *March 6, 1905.*

METHODS OF SELLING AMERICAN MANUFACTURES ABROAD.

(From United States Consul-General Skinner, Marseille, France.)

The "central selling agency method" of expanding the foreign market for American goods, concerning which my views are solicited by a correspondent, conveys no very clear impression of what my correspondent has in mind. There can be, of course, no royal road to new markets opened to American manufacturers, because these manufacturers are the most progressive in the world. There have been fewer discoveries made in regard to the merchandizing of goods than in almost any other line of endeavor. As to American manufacturers, their facilities as producers have undoubtedly expanded much more rapidly than their selling organization. The American business man takes impatiently to the bothersome details of seeking customers, and this temperamental fact has given rise to various disinterested schemes of grouping samples under a single roof, providing model store rooms upon the American plan in important continental centers, and other variations of the same idea. Doubtless there is some good in all of these projects, but in the long run the man who buys will seek the man who wishes to sell from an interested motive, rather than the disinterested organizer of a commercial exposition.

Raw products, such as oils, cereals, greases, and similar classes of goods, find a market readily enough through foreign firms, and probably little can be done to improve upon the present state of affairs beyond surrounding our inspection certificates and other commercial guaranties with an effective control. This is not so as regards manufactured products, which must be exposed and explained to intending buyers. To find capable persons to make these explanations and to get into touch with intending buyers is the problem confronting thousands of American manufacturers to-day.

In the city of Marseille, for example, and the situation in Marseille is probably typical, there is a large annual sale of American manufactured goods, consisting, to a considerable extent, of agricultural implements and machine tools. The persons and firms handling this business have satisfactory connections, and are comparatively few in number. It naturally follows that upon receipt of an inquiry from an unrepresented manufacturer these local representatives of the best sort are disinclined to pay any attention to otherwise satisfactory proposals, as to do so would complicate the selling problem and offend their original furnishers, who have contributed to the building up of the business. The new American firm, on the other hand, having had no experience in foreign trade, and meeting with no encouragement from the existing selling agencies, retires from the field, in a large

number of cases, having done no more than to engage in a laborious correspondence.

It has seemed to me for a long time that many difficulties in regard to foreign trade would disappear if unrepresented manufacturers would organize selling companies, the stock to be apportioned among a very small number of noncompeting yet allied lines of industry. A group can be easily imagined of manufacturers of plows, harvesters, thrashing machines, pumps, windmills, and farm wagons, which, without great expense to individual members, might readily establish a direct selling agency, under competent management, in one or more foreign markets, and achieve considerable success. The idea might be extended to many other groups of industries, with the result that individual firms lacking the capital or organization to take up foreign trade independently might do so upon a satisfactory basis. My preference would be in favor of groups exceedingly limited in constituent members, and distinctly avoiding the error of undertaking to cater to every human want, and losing, in so doing, the force which follows concentrated effort. It is for this reason that I am not enthusiastic in regard to "central selling agencies" of unlimited hospitality. There is still something to be said in favor of competition.

No American manufacturers have had greater success in Europe than our writing-machine firms. It is my understanding that four important types are controlled by what amounts to a trust. This being true, it might be supposed that the trust would realize an economy in concentrating the local selling agencies under one roof, with one direction and one set of general expenses. This is not the case. One has but to walk down one of the principal streets of Marseille to discover every one of these machines represented in its own place of business, with its own manager, and each manager striving to secure business by his own methods, and rivaling in his operations his colleague 200 feet distant, who represents the same financial interests.

I see no more promising field for the promoter of new enterprises than forming selling companies for small groups of American manufacturers who are in a position to bid for foreign trade. Such manufacturers could take stock in the proposed companies and apportion the profits among themselves afterwards upon an equitable basis, and with some assurance that they would be building up an individual reputation in the European market, not to be taken away or destroyed, as might be the case were they to deal with foreign firms possessing only a merchant's interest in the American product.

ROBERT P. SKINNER, *Consul-General.*

MARSEILLE, FRANCE, *April 14, 1905.*

DEPENDENCE OF TRADE UPON THE SALESMAN.

(From United States Consul Harris, Mannheim, Germany.)

A factor in foreign trade upon which too much stress can not easily be placed is the salesman. However excellent merchandise may be, and however reasonable the price, it is, after all, the seller who puts it upon the market. The traveling man with his sample case is the real pioneer of trade. Well located general agencies, good advertising, willingness on the part of the manufacturer to spend money in extending his market, and an efficient consular service are all important, but all may fail if the experienced, energetic salesman is wanting. This may be accepted as an axiom of trade which is universal in application, and of which the history of our own trade, domestic and foreign, furnishes abundant proof. In Germany, evidence is not wanting that an agency at Hamburg or Berlin, however well equipped, can not hope to secure an important trade in other parts of the Empire except through capable salesmen who thoroughly canvass the territory.

A score of illustrations might be cited in proof of this, but two only will be mentioned. Until about four years ago certain portions of southern Germany were regarded scarcely worth visiting by our harvester companies. The farms in these sections are generally small, much of the land is hilly, and there are large areas of wooded land. Mowers and reapers had been offered for years in a half-hearted way with indifferent success. About four years ago a well-trained American salesman went into this territory as the representative of a large harvester company. He located in the center of the territory and worked it in every direction. He knew his trade thoroughly and was familiar with the German language. If he struck a dialect, he learned it enough to use it in selling his machines. In four years the number of machines sold by this agent and his subagents has run far into the thousands. What appeared a most unpromising field has, under the management of this salesman, proved a valuable one. Its development was due to his tact and energy and to the aid of a corps of men trained under him to sell machines.

In a store window at Mannheim is an excellent American machine, justly popular and widely sold in the United States. It has been in this window for at least eighteen months. The merchant to whom the store belongs is a good business man who deals in a wholly different class of goods, and it is doubtful whether he has made a single sale of the machine during the period he has been its merely nominal agent. Other American machines of the same class in the hands of other salesmen have, in the meantime, sold here in large quantities, this locality being an exceptionally good one for this class of machinery.

It is no reflection on foreign salesmen to say that, as a rule, American salesmen, or salesmen thoroughly familiar with American methods,

probably succeed best with American goods. This is certainly true of machinery, the American salesman of which is likely to have had an apprenticeship in the factory or to have special knowledge of machinery. The foreign machine agent is likely to have preconceived notions of how sales should be made for a great millionaire business concern, and how far it is proper for a merchant to get under a harvester or an automobile with a monkey wrench or an oil can. In fertility of resource to avoid delays in forwarding merchandise, in fulfilling contracts, setting up machinery, etc., the American salesman has no superior. It is no exaggeration to say that the machine man to whom reference was first made above would have a mowing machine hauled 20 miles at night rather than disappoint a farmer to whom it was promised on a given day.

A very capable man, for some time past general agent for an American product sold in Europe, and having under his control a large number of salesmen and office employees, expresses the opinion that properly fitted young men from the United States are the most satisfactory in his branch. Next to those he places the native young man taken direct from the schools, without the bias of previous business experience, and trained in American office and sales methods. He believes the American salesman, other things being equal, presents to better effect the advantages of American goods, and is less easily driven from the field than the foreign salesman selling the same goods.

On account of language, lesser expense, etc., the employment of foreign salesmen will in many branches always be deemed expedient. In this case, however, the manufacturer should keep himself advised somewhat as to the class of men selected, the instructions given them, the results attained by those who actually sell his goods, and the volume of business done in certain localities. The mere fact that a man speaks the language of a foreign country by no means proves his fitness to sell goods in it, nor does the fact that he was born in the country and is familiar with its conditions. To sell goods abroad, as at home, he must have a liberal share of those special qualities which go to make up the trader. Whether the American trader abroad selects his own representatives or leaves their selection to his general agent, the question of their efficiency is one that directly concerns him. It is to him the question of chief importance. Under some circumstances it is perhaps possible to eliminate the general agent entirely. Under no circumstances is it possible to dispense with the salesman.

The manufacturer who is really in earnest in his efforts to secure foreign business should so organize his selling department abroad as to avoid delays as much as possible. Failure on his part or that of his general agent to answer correspondence or to forward goods promptly may cripple the efforts of the best salesman. A foreign

business man ready for a desk or a typewriter, or a farmer with a harvest ready to cut, is likely to be no more tolerant of delays than is the American customer.

The plan adopted by some large manufacturers of meeting their salesmen in foreign fields seems to yield good results. If this can not be done by the manufacturer himself, he can have his general agent do so and report to him.

It would be an extraordinary general agent who from his desk in any one German city could keep track of the development of German manufacturing in the past fifteen years and know that his salesmen were accomplishing the best possible results. Intelligent Germans scarcely realize the changes that have gone on around them. But a few decades ago Baden was accounted an agricultural State, with but 11.6 out of 1,000 of its population engaged in manufacturing. In 1903, 104.1 out of each 1,000 of its population were engaged in manufacturing, and the State had become a manufacturing and commercial one, with a higher percentage of manufacturing population than the Empire as a whole. Its agricultural methods have in the meantime been much modernized. In lesser degree, Alsace-Lorraine and other parts of southwest Germany have undergone like changes. Splendid flouring mills, with the latest milling machinery, have largely superseded the water-power mills of other days. An industrial transformation has taken place. That the American manufacturer has shared in this newly created trade there can be no doubt. It is equally certain that with a larger body of salesmen specially qualified to sell his goods larger returns would have followed.

The rapid extension of our avenues of trade into foreign lands should stimulate a large body of our young men in the learning of additional modern languages and in other preparation for a career in this branch of our trade. In no other field of endeavor is higher business talent required and in none other are the rewards more certain.

H. W. HARRIS, *Consul.*

MANNHEIM, GERMANY, *April 20, 1905.*

CLOVER SEED IN THE UNITED KINGDOM

(From United States Consul Knabenshue, Belfast, Ireland.)

The United Kingdom is the largest single market of American clover seed, absorbing about one-third of the total exports. Of this quantity the largest portion is taken in England, but there is a good market for the seed in Belfast, from which point the farmers of northern Ireland are supplied. The demand in the United Kingdom is irregular, being governed by climatic conditions. English clover is cut for hay in June, and the second growth is depended upon for seed. If the weather be favorable for the maturing of the seed the

domestic supply reduces the import requirements, and vice versa. The largest imports are from the United States, the remainder coming from Chile, Germany, New Zealand, France, and Canada.

As to the comparative qualities of the seed from the different sources, the English seed is regarded by English farmers as the best, as it is deemed larger, hardier, and is thought to produce the best plant. Chilean seed is regarded by the more advanced farmers as equal to the English, but it contains seeds of dock and dodder. The dodder does not germinate here, but the dock does. Canadian seed is held in high esteem, but the supply is generally small. In fact, Canada imports largely from the United States. German seed is regarded as inferior to English, but is in demand when the price is low. The ordinary French seed is the poorest of all, although some fine qualities are often available. In the estimation of British farmers, clover seed from the United States is better than that from France, but inferior to others. New Zealand seed ranks high, but the supply is small. The American seed is invariably so clean that it is highly esteemed, although small in size, and it finds a ready market.

As matters stand at present, the United States export trade in clover seed has most to fear in the British market from the Chilean product. The farmers of Chile, alive to the profitable nature of clover-seed culture, have ordered special cleaning machinery, constructed in Great Britain, in the hope of getting rid of dock seed, and thus overcoming the main objection to their product. The Chilean exports are steadily growing in volume. A few years ago Great Britain took only 3,000 bags, but this increased to about 12,000 bags in 1903, and 17,000 bags in 1904.

A Belfast seed merchant who has imported large quantities of clover seed states that American shippers should be careful to observe the "even-weight" system. Many simply fill the bags compactly without weighing. It would be far more satisfactory to consignees in the United Kingdom were all the exporters to follow the example of a Chicago company, which puts, by actual weight, 168 pounds in each bag. This seed is sold here by the hundredweight of 112 pounds, and each bag therefore contains 1½ hundredweight.

The same authority reminds American shippers of clover seed that while all may be graded as "prime," separate lots will differ in color and in size of grain. British importers, as a rule, buy by sample. It is complained that American shippers are not careful to make shipments and samples agree. For example, some farmers have a preference for a purple seed, while others prefer a lighter color. Knowing these preferences, the importer buys to meet them, and if the shipment does not agree in color or size of grain with sample he has rightful cause to find fault, even though the shipment be entirely equal in quality to the sample.

This gentleman also expresses the opinion that American dealers do not pay enough attention to the foreign trade, but think too much of the home market. This is all very well when the supply is small and the home demand large, but not when the conditions are reversed.

There must be a systematic and energetic effort to promote the export business or Chilean seed will supplant the American in the British markets. This is too serious a matter for American dealers to pass over lightly. The rapid increase of Chilean exports proves this conclusively. British farmers say that American seed is not as hardy as English and Chilean, but this is probably a prejudice. A leading American shipper made a number of experiments which convinced many British dealers that American seed is quite as hardy as the English, but farmers here still adhere to their old belief.

S. S. KNABENSHUE, *Consul.*

BELFAST, IRELAND, *March 30, 1905.*

CANADIAN TRADE DISCRIMINATIONS.

(From United States Consul-General Holloway, Halifax, Nova Scotia.)

At a meeting of the Nova Scotia branch of the Canadian Manufacturers' Association, on Monday, April 10, in the board of trade room in this city, the following resolution was passed:

This association expresses its conviction that the interests of the Canadian people can best be served, and a strong sentiment fostered, by keeping the trade of the country, so far as possible, in Canadian channels; and whereas a large portion of the goods imported into Canada now enter via foreign ports and are carried over foreign railway lines, therefore cooperation is asked from the Canadian Manufacturers' Association, the various boards of trade, and other representative bodies, in pressing upon the Dominion government the desirability of so framing the tariff that there shall be a customs preference on all goods which enter Canada direct from the country of origin, also on all goods entered at Canadian ports when carried in British shipping.

It was announced that a manager had been appointed for the insurance branch to reside at Toronto, whose duties would consist of supervising policies for members and advising them regarding rates, placing insurance, etc. It was stated that marked benefits had already been derived by the intervention of this department.

A resolution was also adopted favoring government control of telegraphs, the question of government control of telephones being in abeyance.

W. R. HOLLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *April 11, 1905.*

GERMAN TEXTILE EXPORTS.

(From United States Consul Monaghan, Chemnitz, Germany.)

The Imperial statistical bureau shows that in 1904 Germany exported 143,471 metric tons of textiles, valued at $256,318,000. This is over one-fifth of the value of the total export of Germany in 1904, which amounted to $1,231,000,000.

The following figures show the advances which Germany has made in the last eight years in her exports of textiles:

Exports of German textiles, 1897 to 1904.

Year.	Quantity.	Value.
	Metric tons.	*Dollars.*
1897	115,900	184,885,000
1898	113,600	181,547,000
1899	120,300	209,537,000
1900	134,500	222,936,000
1901	130,700	215,454,000
1902	142,900	233,620,000
1903	147,900	249,291,000
1904	143,500	256,318,000

It will be seen that the quantity in 1904 was 4,400 tons less than in 1903, but that the value was $7,027,000 greater. This is claimed to be due to the increased price of American cotton.

The most important item in weight was woolen goods. The export of woolen goods shows a marked increase, from 33,890 metric tons in 1903 to 35,085 metric tons in 1904. The value of the woolen goods exported in 1904 was $60,294,000, while the value of the woolen cloths exported during the same period amounted to $42,364,000. England was Germany's best customer in woolens, though the export to England in 1904 shows quite a falling off compared with that in 1903. The export in 1904 was 4,328 metric tons, while in 1903 it was 5,073 tons. This decrease was balanced by the large increase in the export to British India, which was 894 tons in 1902, 1,479 tons in 1903, and 2,151 tons in 1904. The exports to Argentina also increased from 395 tons in 1903 to 610 tons in 1904. The export to the United States shows no increase. Although the export to Russia and Japan shows a large falling off, still, considering the conditions which exist in these countries, Germany is quite satisfied with the results obtained in 1904.

Germany's export of cotton fabrics dropped from 49,300 metric tons in 1903 to 47,967 metric tons in 1904, of which 24,388 tons were closely woven and printed cloth.

Taking into consideration the many obstacles which Germany had to contend with, especially cotton speculation in the United States, general satisfaction is felt with the textile trade of 1904.

J. F. MONAGHAN, *Consul.*

CHEMNITZ, GERMANY, *March 27, 1905.*

ARGENTINE QUEBRACHO AND THE GERMAN TARIFF.

(From United States Consul-General Mayer, Buenos Aires, Argentina.)

The exporters of quebracho wood in logs and in extract have been unduly and prematurely alarmed at the announcement that the German Government was about to increase the customs tariff on that article imported from Argentina.

For several years before the enactment of the German customs law of December 25, 1902, the German Agrarian party had been agitating for such an alteration of the customs duties as would more effectually protect the agricultural and pastoral industries against the competition of foreigners. Among the products for which such protection was demanded were the substances used in tanning, which had to compete with, among other things, Argentine quebracho, which was admitted free of duty in conformity with the customs law of July 15, 1879. The result of the agitation was the passing of the new law, which authorizes the imposition of the following import duties per ton: Quebracho wood in logs, $4.76; solid extract of quebracho (Argentina does not export the liquid extract), $19.04; while certain tanning substances, obtained chiefly from Italy, are to be admitted free.

These duties have as yet not been applied, for article 16 of the law declares that "the date at which the law is to go into operation shall be fixed by Imperial order, with the previous approval of the Federal Council." The reason for this article was that Germany is bound by treaties of commerce (containing the "most-favored-nation" clause) with all the nations from which were imported the articles upon which higher duties were imposed by the law, including Argentina. Therefore it is necessary, before substituting the new for the old duties, to get rid of the existing treaties and to omit the clause referred to from every new treaty of commerce. So, at present, Argentine quebracho and its extract are imported into Germany duty free.

The new tariff law applies to "other tanning woods" the same duty as is prescribed for quebracho, and this would permit an Australian bark, which is said to be twice as rich in tannin as quebracho, to be imported at the same duty.

The exports of quebracho logs from Argentina for a series of years were, in tons, as follows: 1894, 74,358; 1900, 239,836; 1902, 254,723; 1903, 200,201; 1904, 252,723. Of the exports of 1903, the quantity consigned directly to Germany was only 4,322 tons, or 15,877 less than in 1902, while the United States received 23,511 tons, Portugal 30,893, and the United Kingdom 130,747 (11,332 less than in 1902) on British account "for orders." A large portion of this last-mentioned quantity went to Germany. The exports of quebracho extract were as fol-

lows during the years given, in tons: 1895, 402; 1900, 5,957; 1903, 12,040; 1904, 20,111. In 1903, Germany received 2,812 tons (409 more than in 1902), the United States 6,352 tons, and the United Kingdom only 1,214 tons, besides 200 tons on British account "for orders."

According to the statistical department, the value of quebracho extract in Buenos Aires is $80 per ton, and $86 per ton on board in a German port, while the value of quebracho in logs is $15.84 in Buenos Aires, and $21 on board in Germany.

D. MAYER, *Consul-General.*

BUENOS AIRES, ARGENTINA, *March 14, 1905.*

METAL BEDS IN CHINA.

(From United States Consul Anderson, Amoy, China.)

Manufacturers of metal beds in the United States, in designing goods for the Far East generally, and especially for China, should include in every design provision for mosquito-net frames and supports, either the high posts of the common design or some other proper support for the net which will not detract from the harmony of the design. Since it has been shown that yellow fever, typhus, and certain other diseases are communicated by mosquitoes and other small pests, foreigners almost without exception, and the high-class Chinese to a greater and greater extent, are using nets. It may be well to call attention in this connection to the fact that metal beds sell in China for prices far out of proportion to their cost in the United States. The plainest sort of an iron bed without springs will cost $40 Mexican, or about $18 gold, and woven-wire springs of the usual double bed width in the United States will cost $7 gold, though they are of Chinese make and of inferior quality. A metal bed which at home would retail for $10, springs and bed, would here sell for more than twice that sum without any springs. Retailers in this class of goods in China, as a rule, do not seem to be willing to make only a reasonable profit.

The trade in American metal beds is rapidly increasing in China, European beds hardly being in the same class for comfort or beauty, prices considered. The higher class Chinese are taking to foreign furniture generally and to foreign spring beds with the rest. Like other branches of trade, to make it what it ought to be there must be special study of the requirements. A large number of light-weight, cheap spring beds ought to be sold in China in the next few years. Beds of unusually great width are popular, owing to the hot climate.

GEORGE E. ANDERSON, *Consul.*

AMOY, CHINA, *March 23, 1905.*

FIBROUS PLANTS IN THE STATE OF VERACRUZ, MEXICO.

(Extract from the annual report for 1904 of United States Consul A. J. Lespinasse, Tuxpam, Mexico.)

Fibrous plants abound throughout this section, and yield very fine qualities of fiber. They may be graded for fineness as follows: Pita, cardon, sapupe, lechuguilla, maguey, cardo, etc., all of which contain more or less beautifully white and strong fiber, which may be easily extracted by special machinery now constructed in the United States. The fiber of the foregoing plants is finer and softer than manila or sisal hemp. The first sapupe plantation will be in operation in a very short time, and if results are satisfactory many others will be induced to start. The sapupe reaches maturity in three years, and produces one-third more fiber, leaf for leaf, than the sisal, which requires six to seven years to yield the first crop. After the sapupe plant has attained its full growth its leaves can be cut continually. Each plant will yield 20 to 30 leaves every three months, and will produce from 2 to 2½ pounds of fiber during the year. The plant lives 20 to 25 years, if properly cared for. It unquestionably has great advantages as a fiber producer.

CULTURE OF THE RED DAHOMEY SWEET POTATO.

(From United States Consul Tourgée, Bordeaux, France.)

This variety of sweet potato—introduced into Europe in 1904 by the experimental garden of Bordeaux—demands a light soil, rich in mold and easy to work, and a good exposure. A heavy soil does not agree with it, but suitable ground needs no special preparation. The sprouts should be planted from May 15 to 20 (the climate of Bordeaux approximates that of eastern North Carolina), about 1½ yards apart, and should be well watered at the time of transplanting. These plants should grow rapidly and vigorously. After runners have spread out over the ground and developed new roots, the plants need no further care, except in case of prolonged drought, when it would be well to water them.

The crop can be gathered from October 1 to 15—at any rate, before the first frosts. The smaller healthy tubers should be put aside for the next year's seed. To preserve these seed tubers, pack them closely in small bags of strong paper or small flowerpots, with ample filling of very dry sand or sifted ashes. Between March 1 and 15 place these tubers under glass, in the hotbed, cover lightly with compost or dry sand. Do not water. When the sprouts are 5 or 6 inches long, break them off and stick them in the hotbed, or in small pots of sand under glass. When they are well rooted, other sprouts may be pinched off,

and the process repeated until time of planting. During all this time the plants should be watered with great caution.

These instructions as to culture of this new variety of sweet potato agree with the practice in our Southern States.

Experimenters receiving sprouts from the acclimatization garden of Bordeaux are requested to report next fall the number of sprouts received, the number planted, the exact nature of the soil and exposure, the time of gathering, the number of tubers dug, their weight and average size, and any other facts of interest relative to these tubers or their cultivation.

I regret exceedingly not being able to send to Washington the box of sprouts offered me.

ALBION W. TOURGÉE, *Consul.*

BORDEAUX, FRANCE, *May 6, 1905.*

CONTRACTS IN FOREIGN COUNTRIES.

(*From United States Consul-General Guenther, Frankfort, Germany.*)

Belgium.—The provincial government at Brussels will award contracts amounting to $345,000, for the construction of six canal locks.

Chile.—The construction of an electric railroad from Valparaiso to Santiago with a branch line to Medipilla is projected, and a concession for it has been granted by the Chilean Legislature. The length of the main line is 90 miles. Imported materials for use on this railroad will be allowed free entry.

China.—The commercial expert attached to the German consulate at Shanghai calls the attention of German capitalists and promoters to the great progress of railroad building in China, the financial success of existing lines, and the favorable prospects and opportunities which that country offers to railroad enterprises. Cheap motor boats also have good selling chances in China.

Dutch India.—The Netherlands Government will soon undertake extensive harbor improvements at Surabaya, Java.

Netherlands.—Amsterdam intends to have new gas works erected; the municipality of Nijmwegen purposes the building of a railroad to Venlo, and will award a contract for the construction of two iron pontoons, with appurtenances; new harbor works are to be built by the municipality of 's Gravenzande.

Macao.—The Austrian consul at Hongkong reports that the board of public works in Macao desires to purchase two steam rollers, one of 10 tons weight, the other heavier, and cars for carrying earth, and rails for track laying.

Roumania.—The ministry of war in Bukharest advertises for bids on 407,000 meters (410,663 yards) of bed ticking, mattress covering, bed sheeting, etc.

Sweden.—The Swedish ministry of railroads will ask the Legislature for a grant of 4,000,000 crowns ($1,072,000) in order to purchase the waterfalls, which are in close proximity to the State railroads, for the purpose of producing electric energy.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *April 15, 1905.*

NAVIGATION ON THE UPPER RHINE.

(*From United States Consul Gifford, Basel, Switzerland.*)

The movement to extend the navigation of the upper Rhine from the present terminus at Strassburg to Basel, and ultimately to the Lake of Constance, is now taking a practical form which promises most important results for the industry and commerce of southern Germany and Switzerland. As the result of the tireless efforts of the young Swiss engineer, Rudolf Gelpke, there has been formed a "Society for the Promotion of Navigation on the Upper Rhine," subsidized by the city of Basel and supported by prominent individuals and societies in other parts of the country. The purpose of this association is the making of trial trips from Strassburg to Basel to determine the present condition of the stream, and, finally, the removal of existing obstacles to navigation and the construction of such artificial improvements as are necessary to render the stream navigable at all seasons of the year.

The first trial voyage from Strassburg has just been happily accomplished by a shipbuilding firm in the Prussian Rhine province. The double-screw steamer that made the trip was detained two days before one of the seven pontoon bridges that bar the stream between the two cities through the opposition of the Alsatian authorities to the extension of the water route from the sea to Switzerland and southern Germany. As, however, the free navigation of the Rhine is guaranteed by the international compact of 1868, all the bridges were at length opened, and the trip up the river, against the furious current, was accomplished in two days by a vessel with a draft of about 6 feet.

No natural obstacles were encountered, and the experts on board the *Kniipscheer* found that the channel in this part of the stream is even more favorable to navigation than that between Strassburg and Mannheim, which for several years has given passage to vessels bringing 600,000 tons of freight to the former city. Without any improvement of this channel it is held that screw steamers can come up the river to Basel 180 to 200 days in the year; and it needs only the increase from 25 to 50 yards in the opening of the pontoon bridges to permit the passage of side-wheel craft that are capable of carrying a much larger tonnage.

The owners of the *Knipscheer* have already made arrangements for building a 1,200 horsepower side-wheeler, which it is proposed to employ next summer for regular traffic on the route, when it is hoped that the necessary changes in the bridges will have been made. Meanwhile, during the present year, four more trial trips will be made—the second one, in a few days—by two tugs drawing a coal barge.

Engineer Gelpke estimates that the Lake of Constance could readily be made to store water enough to prolong the season of the navigability of the river to perhaps 300 days, while similar measures applied to the other Swiss lakes by which the Rhine is fed would insure a safe passage to vessels of large size during the entire year.

The importance of the enterprise which is thus initiated may be estimated by considering that while Switzerland is now compelled to rely solely on the costly railway transportation for the raw materials of its immense industries, Germany so long ago as 1898 moved on her water courses tonnage enough to save about $25,000,000 in freight charges.

GEORGE GIFFORD, *Consul.*

BASEL, SWITZERLAND, *April 20, 1905.*

TRADE OPPORTUNITIES IN FOREIGN COUNTRIES.

(From United States Consul-General Guenther, Frankfort, Germany.)

ELECTRIC TRAMWAYS.

Italy.—The Società Italiana di Industrie Ellectriche, in Spezia, has obtained a concession for building a line to Migliarina a Monte.

Mexico.—The Compañía Exportadora de Jalisco, in Guadalajara, has been formed with a capital of $6,000,000, gold, to build a line from that city to the port of Chameta, on the Pacific, and another line 24 miles long to Hacienda de la Soledad.

Spain.—The Dirección General de Obras Públicas, in Madrid, will award a contract for building a line in that city.

The Compañía de Tranvias de Gijon, in Gijon, will construct a tramway line in that city.

STEAM RAILWAYS.

Brazil.—A concession has been granted by the Brazilian Government for a line from Flores to Colonia Campos Salles in the State of Amazonas.

Mexico.—A railroad between Tepic and the port of San Blas is projected.

Netherlands.—New lines of railroad are projected in the province of Groningen.

MISCELLANEOUS.

Belgium.—The city of Loewen will receive proposals for furnishing plant and equipment for the new municipal abattoir.

Brazil.—The government of the State of Bahia has appointed a commission to examine the waterfalls and rapids and report upon their availability for producing electric energy.

The ministry of the interior in Rio de Janeiro will expend $600,000 in the erection of buildings for the Faculdade de Medicina da Bahia.

China.—The Austrian official journal Handels-Museum says that there is in China a large demand for pumps and machines for boring wells.

England.—The city of Andover intends to construct electric power works.

Netherlands.—The municipality of Heerlen contemplates the building of waterworks.

Spain.—The Junta de las Obras del Puerto of Santander will receive bids for furnishing a steam dredge; estimated cost, $56,700.

Turkey.—The Turkish minister of finance has appointed a commission to study all matters tending to promote the cultivation of cotton in Turkey, and especially to see to it that the farmers are supplied with a prime quality of cotton seed. The commission is also instruced to give close attention to the subject of irrigation and the construction of canals, and to provide instruction to the farmers on cotton planting, and to furnish them with modern tools and best implements used in cultivating the plant.

The governments of Turkey, Servia, and Bulgaria are now negotiating loans, the proceeds of which are to be used for public improvements and military purposes, mainly the latter. The supplies are furnished by outside countries (Germany, France, Austria, Belgium). If our manufacturers were to station able and tactful representatives in Europe they could obtain such government contracts, as we in many lines can underbid European manufacturers.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *April 17, 1905.*

AMERICAN MANUFACTURES IN BOMBAY.

(From the annual report on the commerce of the Bombay Presidency for 1904, prepared by Mr. Clarence E. Fee, clerk at the Bombay consulate.)

There has been a decrease this year in Bombay's imports from and exports to the United States. The greatest decreases occurred in the imports of cotton piece goods and kerosene oil. There are marked increases in imports of apparel, works of art, cigarettes, medicines containing over 20 per cent of spirit, provisions and canned goods, chinery, steel, implements, and tools.

The Bombay cotton piece goods market, which supplies the western half of India, is open for American manufactures. It has come to the notice of this office that many large merchants of this city desire to deal in American piece goods. They understand now more than ever to what extent they are at the mercy of Manchester. Several times small shipments of American piece goods have been received here and have sold very well. There is a growing demand for them, especially up-country. Since native merchants are forced to order their goods through a British commission house (there being no American commission firm here), the reason why the business in American goods has not increased in proportion to the demand is evident. There is a market here for millions of dollars' worth of cotton goods a year awaiting proper efforts to push the trade.

The increase in the imports of patent medicines containing over 20 per cent of spirit is notable. The Hindu takes very readily to patent medicines of recognized brands, and care should be taken that his confidence in American medicines is not abused.

American cigarettes are becoming very popular among the better class of natives, taking the place of the cheaper native cigarette. An increased demand may be expected in the future.

American machinery, implements, and tools are making slow but sure progress in this market. It is hoped that American manufacturers will not sacrifice quality to price in the hope of selling larger quantities.

The figures given for imports of provisions and canned goods are certainly far below the correct ones. A large quantity of provisions of American manufacture lose their identity in transshipment in Europe.

The decrease in imports of kerosene oil is very large, but it will be remembered that the Standard Oil Company is now taking a great portion of its oil from Russia (Black Sea ports). The advantage is in smaller charges and less distance, and the oil refined there by the Standard is very nearly as good in quality as that of American refineries.

Several attempts have been made by an American house to introduce into this market American boots and shoes. Various degrees of success have been had. It is noted, however, that the large English furnishing houses here now carry in stock American footwear of good quality, though the prices are exorbitant.

WATER-POWER TUNNEL NEAR VANCOUVER.

(*From United States Consul Dudley, Vancouver, British Columbia.*)

The great engineering enterprise undertaken by the British Columbia Electric Railway Company (Limited) to furnish electric power is now approaching completion. About 16 miles from this city there is a small lake covering about 300 acres. This is called Trout Lake.

or Lake Beautiful, and lies about 400 feet above the high-water mark. A power plant has been established at the foot of the mountain, and water is brought down in large pipes, having a fall of 390 feet in 1,600 feet. But this lake does not contain sufficient water to meet the demands in the dry season, and therefore it was decided to bring down the water of Lake Coquitlam, which lies about 35 feet higher than Lake Beautiful, and has an area of about 2,000 acres. Between the two lakes there is a range of mountains rising to a height of about 4,000 feet, and to bring the water from Lake Coquitlam to Lake Beautiful required the construction of a tunnel almost the entire distance, some 2½ miles, through solid rock.

Work was begun about two and a half years ago at both ends, and has continued until a few days since, when the two gangs of men met in the middle of the tunnel, and found that their calculations had been exact, so that the borings met each other without the variation of an inch.

Sufficient water has thus been secured to produce all the electrical power that is likely to be needed in this vicinity for many years.

The tunnel is regarded as one of the largest and most successful engineering enterprises yet undertaken in this province, and the following are facts concerning it: Cost, $320,000; total length, 2½ miles; size, 9 by 9 feet, with rounded corners; area of normal cross section, 73 square feet; number of men employed on construction, 100 to 175; time required for drilling, two years two months and three weeks; average rate of progress per day, between 15 and 16 feet; average rate of progress per week, 120 feet; greatest distance driven on either side in one week, 80 feet, at the Lake Beautiful end, in week ending October 30, 1904; explosives required, over 200 tons of dynamite, gelegnite, and blasting gelatine; fuse used in blasting, 500,000 feet, or nearly 100 miles; candle power required to light the work, 175,000.

The consulting engineer was Mr. Wynn Meredith, an American, who has been employed upon great works at several points in the United States.

I inclose an extended newspaper account of the piercing of the tunnel.[a]

L. EDWIN DUDLEY, *Consul.*

VANCOUVER, BRITISH COLUMBIA, *May 4, 1905.*

[a] Filed, for reference, in the Bureau of Statistics, Department of Commerce and Labor.

AUTOMOBILES AND STREET CARS IN LIMA.

(From United States Consul Gottschalk, Callao, Peru.)

A stock company has recently been formed at Lima, known as the Sociedad Automobiles Lima, Limitada, which has imported from the United States 6 large automobiles, with a view to establishing a public omnibus service in that city. Each automobile is capable of holding 30 passengers. The vehicles are of electric motor type and cost £1,500 ($7,299) each delivered at Callao. All the accessories have been purchased from another electrical concern in the United States.

The directors of the new company are prominent business men and private capitalists of Lima, and shares in the enterprise are rapidly being sold.

The city of Lima has for some years past possessed a fairly complete system of horse cars, run by the Empresa del Tranvia Urbano de Lima. This line is patronized to a remarkable extent, in view of the limited means of most of its patrons and the comparatively short distances which they have to go. The fare, including transfer tickets to cross-town lines, is 5 centavos, Peruvian silver (2 cents in gold). Much objection, however, is made to the fact that these cars are not provided (as are the suburban trolley lines) with first and second class accommodation.

The new line of automobiles mentioned above is intended to accommodate only the richer passengers at a slightly increased fare. Its buses will, for the present, run from the main square of Lima (Plaza de Armas) to the exposition grounds, connecting with the trolley cars to Callao at San Juan de Dios, and the Miraflores, Barranco, and Chorrillos trolleys at the Saseo Colon. The entire route is asphalted.

It is the intention of the new automobile enterprise to keep pace with the improvement of street paving in Lima (which is rapidly going on, the older style cobblestones being gradually replaced throughout the city with asphalt or Belgian block,) by putting on more vehicles and establishing cross-town routes as traffic may demand.

On the other hand, the Empresa del Tranvia Urbano, whose concession gives it the exclusive right to rail traction within city limits for some years to come, has determined to substitute electric cars of trolley type for its present horse cars. It may, perhaps, decide either to run first-class and second-class cars or to adopt a type of car with separate compartments for each class of passengers.

Proposals for supplies for the automobile enterprise should be addressed to Señor Miguel Gallo Diez and for the street-car lines to Señor Joaquin Godoy. In matters of street paving the alcalde of Lima, Dr. D. Federico Elguera, should be written to.

ALFRED L. M. GOTTSCHALK, *Consul.*

CALLAO, PERU, *March 27, 1905.*

AUSTRIAN EMIGRATION TO THE UNITED STATES.

(*From United States Commercial Agent Harris, Eibenstock, Germany.*)

The number of Austrian subjects who pass through the various cities of Saxony on their way to the United States has become so great that it is beginning to attract general attention. The German newspapers are commenting upon the ultimate influence which such wholesale emigration will one day have upon the social, commercial, and industrial development of the neighbor Empire. As far back as 1880 emigration from Austria-Hungary had reached considerable magnitude, but at no time in the past was the number as large as at present. During the past three months no less than 43,000 emigrants passed through Reichenbach, a little town situated on the main railway line about halfway between Eger in Bohemia and Leipzig. These emigrants come chiefly from Galicia, Hungary, and Carinthia. Scarcely a day passes without crowds of them being seen passing through on special trains composed of fourth-class railway coaches. This is equally true on the line from Bodenbach in Bohemia to Dresden. Considering the fact that many thousands of Austrian subjects find their way to the United States through the ports of Trieste and Havre, the spectacle we are witnessing seems almost a migration.

ERNEST L. HARRIS, *Commercial Agent.*

EIBENSTOCK, GERMANY, *April 19, 1905.*

AMERICAN FLOUR TRADE IN CHINA.

(*From United States Consul Anderson, Amoy, China.*)

In spite of a good rice supply in the Amoy district the importations of American flour were considerably larger last year than they were the year before, although the record for the last two years has been the worst for six years past. Practically all of the foreign flour imported is of American manufacture. There are fluctuations in the trade which are difficult to explain. Until within the past two years practically no flour went to the interior except by the uncertain likin route, if at all. In 1904, 30,000 pounds, valued at $590.80, and in 1903, 71,000 pounds, valued at $1,333.50, were sent inland. The record of importations at Amoy for the past six years is:

Imports of flour at Amoy, China, 1899 to 1904.

Year.	Quantity.	Value.
	Pounds.	*Dollars.*
1899	21,586,100	403,421.20
1900	19,946,800	372,032.80
1901	26,921,700	503,456.10
1902	20,760,900	387,136.40
1903	15,468,700	285,294.90
1904	18,411,600	353,502.80

One reason for this decrease in importations is found in the increased amount of flour of Chinese manufacture received, the Shanghai milling interests sending only about $150 worth of their product here in 1901, while last year the quantity they sent was valued at nearly $50,000. The demand for flour in the interior districts should, however, be increasing fully as rapidly as the supply from other sources than the United States. One reason why this has not been the case in the Amoy district is that means of communication with the interior have not been good. There is promise of improved service in the near future, and more flour ought to be sold. Bad rice years force the natives to import more flour, but ordinarily its cost prevents them from using as much of it as they would at lower prices. At present American flour has comparatively little competition in this market, although, as above noted, the native product will soon affect the situation in a material and permanent way.

GEORGE E. ANDERSON, *Consul.*

AMOY, CHINA, *March 22, 1905.*

RESULT OF INTELLIGENT AGRICULTURE IN GERMANY.

(From United States Consul-General Mason, Berlin, Germany.)

An English writer who has recently made an elaborate study of the nature and causes of national progress and prosperity in Germany has reported as his conclusion that the chief underlying cause has been the intelligent, liberal, consistent support which has been given by German laws and administration since 1870 to three interests—agriculture, education, and transportation. Without presuming to question or concede the accuracy of this judgment, or venturing to estimate the relative importance of the three elements in contributing to the general result, it may be of interest to note briefly some of the fundamental conditions and results of German agriculture.

The initial fact is that notwithstanding a cloudy, unfavorable climate, a naturally poor soil further impoverished by centuries of unskillful cultivation, and geographical conditions by no means favorable, agriculture in Germany has, during the past thirty years, made steady and important progress. From carefully prepared official statistics covering the five years from 1898 to 1902, inclusive, it appears that the average annual value during that period of the potato crop was $319,000,000; rye, $303,000,000; oats, $260,000,000; wheat, $135,000,000; barley, $108,000,000, and sugar beets, $60,000,000. This summary includes only the six principal farm crops, and leaves out of account grass, lucerne, tobacco, and various other minor products which in the aggregate count for considerable in the economy of the Empire. From the same source it is shown that the

average money product of an acre of rye was $21; oats, $25; barley, $26; wheat, $29; potatoes, $40; while the culture of sugar beets, the most intensive form of German farm husbandry, produced a crop worth per acre in a raw state, $55, and capable of making sugar worth, at current prices, $76.

Pursuing the inquiry why German agriculture has prospered during the years of this country's phenomenal industrial and commercial development—whereas British agriculture has during the same decades steadily declined—the writer cited finds an important cause of such disparity in the different systems of land ownership which prevail in the two countries. The divergence began nearly a century ago, when the German governmental system enabled the peasants to acquire title to their land by payments extended over a series of years. In 1895 there were in Germany 5,558,317 holdings of land, the average size of which was about 15 acres. Of these not less than 3,236,367 were owned by different individuals and averaged less than 3 acres in extent. Such a system of ownership not only favors, but compels, careful, intensive cultivation in order that the peasant proprietor may derive the utmost possible product from his land.

During the past twenty years Germany, notwithstanding the rapid development of all manufacturing industries, has largely increased her crops of grains, vegetables, and fruits, and likewise of clover and hay, although the net area of grass lands has been actually reduced by 33 per cent through meadows and pastures being plowed up and devoted to other forms of cultivation. Notwithstanding this important reduction of grass area, the numbers of all kinds of domestic animals, except sheep—which play but a small and unimportant rôle in this country—have largely increased, a result which has been made possible by the enhanced productiveness of meadows and pastures through fertilizing and better care, and by feeding with cut feed, roots, and cut forage plants in barns and stables stock which formerly grazed in the fields.

Summing up the whole result it can be said that the comparative success of German agriculture demonstrates the economic efficiency of the peasant farmer, who works his own land in a tract sufficiently limited to enable, or rather compel him to cultivate it with intelligent economy and persistent industry. Instead of the tenant system, which, as has been shown in some other European countries, means the gradual decadence of agriculture, the German system of education, Government stations, and scientific advice in soil analysis, fertilization, rotation of crops, and improvement of seeds has gone far toward enabling the Empire to meet the demands of a steadily growing population without unduly increasing its importation of food materials. The liberal expenditure for agricultural education and official aids to husbandry has been thus repaid over and over again. In Prussia alone

there are nine agricultural schools, and the annual expenditure made in teaching agriculture amounts to a large sum. Sustained, directed, and encouraged by such influences, the farmers of the Fatherland are organized into more than fifteen thousand cooperative societies, and the hit-or-miss cultivation of thirty or forty years ago has been largely replaced by scientific, intelligent, and productive methods.

FRANK H. MASON, *Consul-General.*

BERLIN, GERMANY, *May 5, 1905.*

PROTECTION AGAINST DRUG POISONING.

(From United States Consul Swalm, Southampton, England.)

The general pharmacy act of 1868 vested some special privileges in the council of the pharmaceutical society of Great Britain, which at its April meeting resolved that each of the following articles should be deemed a poison within the meaning of the general act: Cocaine and its salts, picrotoxin, acetanilide, preparations of cocaine, digitalis and its preparations, mercuric iodide, mercuric sulphocyanide, soluble salts of oxalic acid, strophanthus and its preparations, and sulphonal. The resolution also directed that picrotoxin and cocaine and its salts should be deemed poisons in the first part of Schedule A of the act.

When the resolution has received the formal approval of the privy council it will have the force of law, and the effects of it will be: (1) That the drugs named, when sold, must be labeled with the word "Poison," and the name and address of the seller; (2) that in the case of liquids, they must be sold only in bottles readily distinguishable by touch from ordinary medicine bottles; (3) that they may be sold by registered chemists and druggists only. In the case of cocaine and its salts and picrotoxin, it will be necessary, in addition to the observance of the precautions stated, that the purchaser be personally known or introduced to the seller, and that his name be signed in the chemist's poison register.

Acetanilide, digitalis, and sulphonal, in addition to cocaine, are drugs which particularly lend themselves to abuse by the public, and the facility with which it has been possible to buy them in the past has been by no means beneficial.

ALBERT W. SWALM, *Consul.*

SOUTHAMPTON, ENGLAND, *April 7, 1905.*

WHEAT IMPORTS INTO HULL, LIVERPOOL, AND LONDON.

(From United States Consul Hamm, Hull, England.)

As a wheat importing and a flour milling center Hull is considered an ideal port. The facilities it offers appear to justify this claim. All grain is free overside vessels, and the receivers' craft have access to the docks free of charge. Then, again, the principal mills are on the water side, and small coasting steamers can be loaded alongside the mill, and where this is not possible flour and offal can be conveyed by small craft alongside the steamer and there loaded with a minimum of expense. Another great advantage possessed by Hull is the excellent system of waterways to the inland towns, which enables the miller to forward his manufactures into Lincolnshire and Yorkshire and as far as Nottingham at reasonable charges.

Turning to the grain trade of the port, it is found that a large and thriving business is done. The cheapness of the port and the excellent system of coasting vessels has been of material assistance in this respect. In 1885 the imports of wheat at Hull amounted to only 10,308,416 bushels, and it was not until 1899 that an import of 20,000,000 bushels was reached; but since that date the imports have increased year by year until in 1904 the total was 30,220,274 bushels. As a wheat-importing center Hull stands second on the list of United Kingdom ports, Liverpool occupying the first place and London the third, as will be seen by the accompanying table.

Manchester is coming in as a competitor. In 1901 the imports to that port were only 4,356,800 bushels, but last year the total was 8,741,600 bushels. All this trade has been captured from other ports, notably Hull and Liverpool. The Mersey port is a competitor of Hull, and the failure of the Indian, Russian, or Argentine wheat crops would make a very serious difference to Hull, especially if this were followed by a bumper American crop. If this should happen, Liverpool and Manchester, by reason of lower rates and shorter sea transport, would to a great extent monopolize the wheat trade.

Imports of wheat into Liverpool, Hull, and London during five years, 1899 to 1903.

Year.	Hull.		Liverpool.		London.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Bushels.	*Dollars.*	*Bushels.*	*Dollars.*	*Bushels.*	*Dollars.*
1899	20,305,040	17,635,209	41,980,284	36,302,114	18,910,061	16,661,942
1900	22,133,440	19,397,436	38,314,957	33,992,230	17,604,011	15,855,485
1901	22,780,987	19,490,420	41,621,272	35,836,594	19,326,011	16,519,037
1902	25,866,381	22,718,189	45,411,505	39,058,836	22,586,620	19,492,542
1903	30,390,267	26,970,922	44,454,452	39,109,686	27,106,367	24,276,107

WALTER C. HAMM, *Consul.*

HULL, ENGLAND, *April 22, 1905.*

CITRIC ACID FROM LEMON WASTE DIRECT.

(From United States Consul Heingartner, Catania, Italy.)

The discovery of a method of extracting citric acid directly from the waste of lemons is attracting considerable attention in Sicily and Calabria. The discoverer, Giovanni Restuccia, is receiving much praise from agricultural organizations, which hope by this new method to raise the price of lemon refuse, but his discovery has greatly angered those who live by speculating on the transformation of citrate of lime into citric acid. The confidence with which Restuccia speaks of his discovery, as well as the results of experiments made with his method by Professors Körner and Manozzi, give promise that the first trial (which will shortly be made in Palermo and Messina) of extracting more than a ton of citric acid, will be even more successful than is expected by the public.

At a recent experiment made in the presence of Körner 54 boxes of Sicilian lemon waste were used. Professor Körner, before whom experiments are made almost daily by chemists who think they have discovered new processes, was at first skeptical, but when he saw the substances which were dissolved in the lemon sack precipitated in their characteristic shapes by the reagents discovered by Restuccia he became enthusiastic. The scientists of Milan (including Manozzi, Morizani, and Gobba) were present at the experiments, and when at the first crystallization the results were manifestly excellent the venerable Professor Körner, turning to Professor Manozzi, exclaimed, "We have here the resurrection of Sicily." The King and the minister have congratulated the inventor.

Restuccia does not wish his method to enrich speculators, but desires the farmers and horticulturists to have all the advantages. He has closed a contract with the Citrica Sicula, which will undertake all expenses for the production of citric acid from the waste of lemons.

ALEXANDER HEINGARTNER, *Consul.*

CATANIA, ITALY, *March 24, 1905.*

BRITTLE GOLD.

(From United States Consul-General Guenther, Frankfort, Germany.)

German papers state that it is a well-known fact that the presence of very small quantities of foreign substances is likely to change the qualities of metals and their alloys materially. Gold is no exception to this rule. Admixture with foreign substances often makes it brittle, while otherwise it is the most malleable and ductile among the

metals Even if alloyed with pure copper, gold shows these undesirable qualities, and such an alloy can not be used for the manufacture of jewelry, for the coining of metals, or for other industrial purposes.

At the Paris mint the first specific investigations concerning this important question were conducted. In 1868 the director of that mint caused elaborate experiments to be made in order to learn what other metals besides silver and copper could be responsible for a deterioration of gold. Brittle coins were collected and their chemical composition was accurately ascertained. It was found that silver and copper are much less deleterious than lead and iron. In some brittle gold coins only one-fifth of 1 per cent of lead or iron was found, but these quantities were sufficient to impair the malleability of the gold.

As disagreeable experiences are had at the mints from time to time with brittle gold alloys, the subject has again been taken up by chemists. Tests have confirmed the fact that lead, iron, and tellurium must be avoided, as they act injuriously upon the properties of gold even in the smallest quantities.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *March 24, 1905.*

TOBACCO MONOPOLY IN FRANCE.

(*From United States Consul-General Skinner, Marseille, France.*)

The report of the French tobacco monopoly for 1903 has just been made public. The receipts for the year amounted to $87,534,516, an increase of $2,634,900 over those of 1902, and the expenses amounted to $15,609,745, a decrease of $305,429 from those of 1902. The sales to the public were as follows:

Public sales of tobacco in France in 1903.

Kind.	Quantity.	Percentage.
	Pounds.	
Cigars	5,796,647	6.87
Cigarettes	4,695,495	5.56
Scaferlati[a]	61,361,865	72.69
Roll tobacco and chewing tobacco	2,522,036	2.99
Powder	10,039,708	11.89
Total	84,415,751	100.00

[a] Scaferlati is the name given to cut packet tobacco, the superior quality of which is composed principally of American tobacco, the product of French cultivation being used for the ordinary quality.

The increase in net profits was due in part to the natural increase in consumption and in part to the increase in the price of scaferlati of Maryland.

The average rate of consumption per individual in 1903 was 34.54 ounces, of which 4.128 ounces represented tobacco in powder and

30.412 ounces smoking and chewing tobacco. Of the total per capita purchases of tobacco—12.11 francs ($2.33)—11.14 francs ($2.15) returned to the treasury.

The production of domestic tobacco is authorized under supervision in twenty-five departments, and the results have been as follows:

Production of tobacco in France in 1902 and 1903.

Item.	1902.	1903.
Planters.....number..	54,639	54,400
Land cultivated.....acres..	39,377	39,617
Crop.....pounds..	53,838,545	53,043,972
Value of crop.....dollars..	4,247,780	4,138,659
Price paid per 100 kilos (220 pounds).....do....	17.39	17.20
Yield per hectare (2.417 acres).....pounds..	3,370	3,300
Return per hectare (2.417 acres).....dollars..	266.50	258.04

Imports of tobacco into France in 1903.

Kind.	Quantity.	Average price per 220 pounds.
	Tons.	*Dollars.*
Leaf tobacco from Kentucky, Maryland, Ohio, and Virginia.....	13,972	21.25
Leaf tobacco from Habana, Mexico, Brazil, Sumatra, Java, and the Levant...	3,174	44.56
Leaf tobacco from Hungary, Ukrainef, Astrakhan, Java, etc., for scaferlati ..	8,122	15.98
Cigars of foreign manufacture, 12,235,935 in number.....	48	[a] 41.72
Cigarettes of foreign make.....	68	[a] 3.17

[a] Per 1,000.

ROBERT P. SKINNER, *Consul-General.*

MARSEILLE, FRANCE, *March 20, 1905.*

TERRITORIAL GOVERNMENT OF CROATIA-SLAVONIA.

(*From United States Consul-General Chester, Budapest, Hungary.*)

Since 1868 the province or territory of Croatia-Slavonia has enjoyed autonomy in (1) internal affairs (police, health, etc.); (2) affairs of religion and education, and (3) judicial affairs, with certain restrictions under the first and third of these heads. At the head of the government in Zagreb, the territorial capital, stands the ban or governor, who is responsible to the territorial assembly of the province, but is appointed by the King of Hungary, upon designation by the Hungarian prime minister in Budapest. Under him is a presidial section or bureau, but the actual administration is intrusted to three departments for the three branches of work above.

The first department, that of internal affairs, has a chief, who is ex-officio lieutenant-governor (vice-ban) of the territory, under whom are three banal councilors and fourteen bureaus, as follows: (1) Croatian autonomous finances; (2) internal administration (city and county); (3) agriculture (except river regulation and forestry supervision); (4)

veterinary matters; (5) irrigation engineering; (6) labor and commerce; (7) police matters (including emigration); (8) military and gendarmerie matters; (9) community institution and foundation matters; (10) public health; (11) forestry administration (except supervision); (12) public domains; (13) public works; (14) fiefs, land-burden cancellation.

Added to these sectional bureaus are a territorial statistical office, translation office, and bureau of clerks.

The second department of the territorial government, that of religion and education, has a chief and three section councilors, a secretary, two middle school and two primary school inspectors, and a bureau of clerks.

The third department, that of justice, has a chief, one section councilor, an inspector of prisons, a supervision of land records, a secretary, and a bureau of clerks.

Indépendently coordinated with the foregoing three departments are a territorial auditing office, treasury, foundation office, bureau of archives, and board of health.

Regarding the department of internal affairs, the constitution of Hungary allows Croatia-Slavonia only autonomous executive jurisdiction, but not legislation in commercial and exchange and mining matters. In navigation, river regulation, forestry supervision, copyright granting, patent issuing, and trade-mark and sample protection, Hungary has reserved to herself for the whole State, including Croatia-Slavonia and Fiume, the right of both executive jurisdiction and legislation. Compensation for the foregoing restrictions is received by Croatia-Slavonia through the existence of (1) a Croatian ministry in the Budapest cabinet, for codification of laws, transmission and authentication of documents, and exercise of influence in Hungarian and Croatian joint legislation, and (2) Croatian sections or bureaus in the Hungarian ministries of finance, home defense, and commerce and agriculture, for the exercise of executive jurisdiction over Croatia-Slavonia in those branches.

FRANK DYER CHESTER, *Consul-General.*

BUDAPEST, HUNGARY, *March 30, 1905.*

AMERICAN THROUGH BILLS OF LADING INVALID IN BELGIUM.

(From United States Consul-General Howe, Antwerp, Belgium.)

A packing company of Chicago sold to importers at Antwerp 20 tons of bones, c. i. f., cash against documents. The documents tendered by the sellers were (1) a policy for the sea transit from New York, whereas the transit began at Chicago; (2) instead of an ocean bill of lading, a through bill of lading issued by the railway company at Chicago in the usual form, containing a provision that each carrier

(the steamship company and the railway, respectively), was responsible only for damage sustained during the portion of the transit when it was actually carrying the goods. The buyers refused to accept these documents. Proceedings being taken, they were ordered by the commercial court at Antwerp to accept them. The buyers appealed and the court of appeal sustained their objections. The court held that these documents were insufficient. The policy was incomplete because it covered only the sea transit, and the buyer was left unprotected against loss or accident occurring on land, for which his only remedy was against the railway company in the United States.

As regards the bill of lading the case raised a grave question, which has been the subject of much controversy in business as to the validity of a through bill of lading so much used and abused by exporters from the United States. The court decided that such a document is not a valid bill of lading and does not satisfy the conditions of a sale c. i. f., and that accordingly the buyer had a right to refuse it. The following is a translation of the judgment:[a]

On October 17, 1903, the defendants verbally agreed to sell to the plaintiffs 20,000 kilograms (20 metric tons) of crushed bones at a certain price, c. i. f. The goods were to be forwarded from the western part of the United States to the port of Havre, France, payment to be made cash against documents. Under such a contract a seller has to tender to the buyer, before the carrying vessel arrives, an invoice, policy of insurance, and bill of lading. The buyer pays upon receipt of those documents, and in case of necessity looks to his rights under the bill of lading to enforce any claim he may have for loss or damage to the goods. In this case the material documents were tendered on January 11, 1904, but the defendants refused to accept them or to pay the price, on the grounds that the documents tendered were not in accordance with the terms of the contract. We have, therefore, to consider these grounds.

The defendants contend that even without any such inquiry into the merits, the contentions of the plaintiffs in support of their refusal ought to be treated as groundless, because they are different from those set up by the plaintiffs in the first instance. The plaintiffs, it is true, took a preliminary point that they were entitled to refuse acceptance because before the tender of the documents they were informed that the goods which were being dispatched were superior in quality to those stipulated in the contract; but this point was disposed of before presentation of the documents, and no inferences ought to be drawn against their present contentions from the fact that they at one time raised different contentions. When the plaintiffs examined the shipping documents they at once refused them on the ground that they did not conform to the contract.

The court below treated as a fault the omission by the plaintiffs to state with particularity the precise respects in which they alleged that the documents tendered did not comply with the requirements of the

[a] A London comment on the Belgian decision is published in the Monthly Consular Reports for April, 1905.

contract, on the ground that without such information the seller had no opportunity of giving bail or finding sureties to make good any insufficiency in the documents, the transfer of which constituted the transfer of the possession of the goods. The answer to this point is that the essential nature of the contract was that upon payment of the price the documents should be handed over to the buyer, in order that he might be in a position to enforce the rights against the carrier, or the underwriter, which he acquired by possession of the bill of lading and policy of insurance. It was the business of the sellers, without any information on the subject from the buyer, to know the extent of their engagements under the contract and to carry them out as required by the contract. It may be further pointed out that even if it had been still possible for the sellers to remedy the insufficiency of the documents by an offer of bail or sureties, the sellers, in fact, did nothing of the sort even after the buyers had in the court below commenced legal proceedings and particularized the precise respects in which the documents were irregular at a time when the goods were still in transit.

The parties agreed that the policy of insurance only covered the marine risk. The plaintiffs contend that this policy was insufficient and ought to have covered the land transit from Chicago to New York, the port of lading. The judgment in the court below held that according to the custom of trade it is usual to limit the insurance to the marine risk, but the plaintiffs deny the existence of any such custom, and the defendants furnished no proof of its existence, which it was incumbent upon them to do--all the more so as the plaintiffs produced a River Plata policy and another as examples of the common form of policy used in Antwerp, under which the goods are covered while in transit on land, the risk attaching when the goods leave the warehouse at the inland place where the transit begins, and continuing up to the actual delivery of the goods to the buyers in Europe. These policies expressly included risk of transport on rail. Having regard to the perils of the land transport, it was clearly to the interests of the plaintiffs that the goods should be insured against the land risk. In the absence of such a policy they had recourse against no one in case of damage by inevitable accident and, further, even if they had been able to establish a prima facie case against the railway company they might have been met with the defense that the goods were actually received on board the carrying vessel at New York. It is admitted by the defendants that in order to forward the goods they were obliged to entrust them to a railway company from Chicago to New York intrusted with the duty of carrying the goods to the port of New York, and of forwarding them by the Barber Line to the port of Havre.

According to the terms of the contract the plaintiffs, in exchange for the purchase money, were entitled to receive the bill of lading—that is to say, an instrument stating that the named captain of a named vessel had actually shipped the goods on that vessel under the terms of the contract contained in the bill of lading, and upon his undertaking to carry them to the named port of delivery, and there deliver them to the named consignee. The plaintiffs were entitled to receive such a bill of lading, if for no other reason, in order that they might be in a position on the arrival of the vessel at the port of discharge to sue the captain, whose ship and freight could be arrested, and so fur-

nish an effective security for their claim. But we do not find that any such document was tendered. The receipt signed by the railway company that received the goods on the conditions above indicated was a through bill of lading in the form which was held by the court below to be in general use for the transport of goods from the western United States to Europe, and the court held it to be a good bill of lading, as called for by the contract. But the defendants gave no evidence of any such customary form, and we see no grounds for the view taken by the court below that such a usage exists.

It follows from the preceding considerations that the plaintiffs were entitled to refuse payment against the incomplete documents which were tendered, and that they could not therefore be required either to take up the documents or to accept the goods. The court therefore allows the appeal, and sets aside the judgment of the court below, with costs against the defendants in both courts.

CHURCH HOWE, *Consul-General.*

ANTWERP, BELGIUM, *May 5, 1905.*

TRADE OPPORTUNITIES IN FOREIGN COUNTRIES.

(From United States Consul-General Guenther, Frankfort, Germany.)

Argentina.—The British consul at Buenos Aires reports a growing demand throughout Argentina for automobiles, agricultural machines, construction iron for buildings, sanitary plumbing fittings, and house-furnishing articles.

Austria.—The Electric Central Power Station in Podgorze, near Krakow, is to be enlarged and will receive additional motors, steam engines, boilers, and electric fittings. Apply to K. K. Staatsbahn-Direction, Krakow.

British South Africa.—The government of Natal invites bids for the construction of a 2-foot railway, 10 miles long, starting from Stuartstown, to connect with the Natal-Cape Railway. For particulars apply to the consulting engineer for Natal, 39 Victoria street, London, S. W., England.

Egypt.—According to a report from the German consul at Alexandria, Egypt presents an excellent field for electrical enterprises, not alone in the cities and towns, but for furnishing motive power for pumping water in the agricultural districts. Egypt imported electric materials to the value of $467,760 in 1904, drawn from the following countries: England, $222,485; Germany, $81,655; France, $41,265; Sweden, $25,960; America (United States?), $25,855, and Italy, Switzerland, Belgium, and Austria smaller amounts. The following towns have electric lighting systems, conducted by the companies named: Ismailia, The Société Electrique d'Ismailia; Mansoura, The Mansoura Electric Supply Company; Suez, The Société Electrique d'Ismailia;

Tanta, Eugene Nahman & Co.; Port Said, Compagnie Centrale du gaz; Alexandria and Cairo, Compagnie Centrale d'Eclairage par le gaz. Electric tramway lines are operated in Cairo by a Belgian company, the Société Anonyme des Tramways du Caire, whose share capital is $1,200,000, and in Alexandria by a Belgian company also, the Société Anonyme des Tramways d'Alexandrie, having a working capital of $1,600,000. The Alexandria and Ramleh Railway Company (Limited) operates the electric tramways running from Alexandria to suburban places.

France.—A new company, Le Central Electrique du Nord, with a capital of $1,200,000, has been formed in Brussels for the purpose of building an electric tramway between the cities of Lille, Roubaix, and Tourcoing, and branch lines, running a total length of 37½ miles.

French Kongo.—A railroad 469 miles long is to be built from Libreville to the Kongo River.

German Kamerun.—A company has received a concession to construct a railroad from Duala to the Mananguba Mountains, in the German colony of Kamerun. The capital stock is to be $4,046,000, of which the German Government will guarantee 3 per cent income annually on an amount of $2,618,000. German contractors and supplies will have the preference if the prices are not higher than those of foreigners. The road is to be narrow gauge.

Germany.—Zerbst, to the amount of $576,000, and Rottenburg on the Main, to the amount of $214,200, have been authorized to issue bonds for public improvements.

Accounts from Essen state that the Deutscher Kaiser Coal Mining Company intends to replace the horses in its pits by benzine motors.

A project has been presented by a member of the municipality of Mainz to introduce electric lighting in the principal streets of that city.

The Wholesale Purchasing Company for the cooperative associations of Germany, at Hamburg, sold goods to the amount of $8,092,000 in 1904. It supplies 1,366 associations, which retail the goods to their members.

In its official journal the ministry of the interior of the German Empire invites interested parties to call at its office to inspect the report of the United States consul at Manchester on "Cotton textile factories, agents for same, etc., in India, China, Japan, and Russia," contained in No. 2204, Daily Consular Reports.

Italy.—The municipalities of Girgenti and Favara, Sicily, have united for the erection of waterworks which will require a large amount of iron water pipes. The estimated cost is $406,000.

Switzerland.—The Austrian consul at St. Gall calls the attention of Austrian manufacturers to the increased use of electrical contrivances in the hotels of Switzerland, in laundries, and elevators, and for ventilating, cleaning floors, beating carpets, etc. Switzerland has

many hotels and offers a big market for the sale of electric machines for such purposes.

Miscellaneous.—The following cities are now issuing bonds to pay for contemplated public improveme ts, among which are sewerage works, electric plants, etc.: Belgrade, Servia, $2,000,000; Baden-Baden, Germany, $933,000; Giessen, Germany, $814,000; Mülhausen, Germany, $814,000; Regensburg, Germany, $476,000; Offenbach, Germany, $1,190,000; The Hague, Netherlands, $1,200,000.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *May 15, 1905.*

FLOUR MILLING IN THE UNITED KINGDOM.

(From United States Consul Hamm, Hull, England.)

The three largest milling cities in the United Kingdom are Liverpool, London, and Hull. The potential flour output per hour of each city, in sacks of 280 pounds, has been estimated as follows: Liverpool, 625 sacks; London, 450 sacks; Hull, 255 sacks. This would be a total hourly output of 1,330 sacks for the three cities. If all the mills in these ports worked full time they would produce about 9,000,000 sacks per annum, or nearly one-fourth of the total amount of flour produced in the mills of the United Kingdom during a cereal year. The number of milling firms in these three cities is 30, and therefore their average capacity is about 45 sacks an hour. As several of these firms have more than one mill the average per mill is about 40 sacks hourly.

There are other milling centers, the largest of which is probably that including Leith and Edinburgh. Then comes the Newcastle and Sunderland district, with York, Glasgow, and Cardiff following closely. Each of these centers produces over 100 sacks per hour, an estimate of their capacity being as follows: Leith and Edinburgh, 160; Newcastle and Sunderland, 150; York, 150; Glasgow, 120; Cardiff, 100. The total capacity of these milling centers is about 680 sacks per hour, a little more than that of Liverpool alone. There is probably no other inland city or town which produces over 100 sacks per hour. Sheffield and Birmingham probably come nearest to it; and Bristol, too, makes almost that quantity. Other places of fairly large milling capacity are Belfast, Limerick, Barrow, Manchester, Leeds, Dublin, Blackburn, Sowerby Bridge, Wrexham, Stockton district, Plymouth, Ipswich, and Carlisle. The capacity in all these is well below 100 sacks per hour, the average being probably about 50 sacks.

The total capacity of all the milling centers named, other than the three great milling cities, is probably about 1,600 sacks an hour, and if the mills worked full time the yearly output would be about 11,000,000 sacks, making, with that of the three cities, an aggregate

yearly capacity of 20,000,000 sacks. The great majority of the mills involved in this survey of the larger concerns work night and day, and therefore the actual output, when due allowance is made for holidays, breakdowns, and stops for renewals, can not be far short of 18,000,000 sacks of 280 pounds each.[a] The number of firms which deal with this huge total is about 100. There are about 800 mills with modern roller outfits, and the remaining 700 manufacture about half of the flour made in the country, the other half being made by the 100 firms in the large milling cities and centers. The average output of the 700 mills is thus about 500 sacks per mill per week. These estimates are rough, but they will serve to show how the milling capacity of the United Kingdom is distributed.

It is a well-known fact that the English millers, and especially those in Hull, have been able to capture a share of the American flour trade in the United Kingdom. The steady growth of the imports of wheat here and the falling off in the imports of flour are evidences of this. One of the chief reasons for the increasing use of home-milled flour is its excellent quality. Another is its cheapness. Good flour can be bought here in 14-pound sacks for 1s. 6d. (36 cents), or at the rate of $4.48 per barrel of 196 pounds. The reason why flour can be sold here as cheaply as in the United States, after the freight on the wheat for 5,000 miles has been paid, is that there is a much larger demand for the offal here than in the United States. The income received from this source enables millers to bring wheat from America, grind it into flour, and sell it as cheaply as or more cheaply than American flour can be imported and placed on the market. Large quantities of offal are produced at Hull and exported to continental ports at a profit. This offal is classed as bran, pollard, and sharps, and it sells here at wholesale, per ton of 2,240 pounds, at the following prices: Bran, $22.50; pollard, $23.70; sharps, $24.30. At retail this offal sells in Hull at from 18 to 22 cents per stone (14 pounds), according to quality.

Large flour mills are now being built in London and Manchester, and both those cities hope to increase largely in the near future their imports of wheat and their output of flour. All these circumstances go to show that the English millers believe that their control of the home market and a share of the Continental flour market is well established, and that the growth of population in the United States is fast removing that country as a competitor from the list of flour-exporting countries.

WALTER C. HAMM, *Consul.*

HULL, ENGLAND, *April 22, 1905.*

[a] Eighteen million sacks of 280 pounds each are equal to 25,714,285 American barrels of 196 pounds each.

MOVEMENT OF CHINESE CAMPHOR.

(From United States Consul Anderson, Amoy, China.)

Just what the effect will be of the attempt of certain Japanese interests to maintain a monopoly of the camphor business of Fukien Province, and therefore of practically all China, remains to be seen. The monopoly has certainly been disastrous in many ways, but it is possible that the contest over it has aroused certain Chinese interests to a realization of what the business may be under normal circumstances if attention is given to it. The contract which gave these Japanese interests the exclusive right to buy camphor of the Chinese citizens of the province was secured about two years ago. Foreigners who had been engaged in the trade theretofore continued to send their Chinese agents into the interior to purchase camphor and several of these agents were seized and their camphor taken from them. Upon complaint made at Peking the men were released and later the provincial authorities indemnified the foreigners for the camphor thus taken from them. A few months ago the viceroy at Fuchau announced that the monopoly would not be maintained. Meanwhile the Japanese interests concerned claim all advantages accruing to them under the monopoly contract and the two conflicting interests will probably continue their dispute indefinitely with more or less interference with the camphor business all the time.

In the last few years the exports of camphor have come up and have gone down. In 1899 and 1900 no camphor was exported from Amoy through the imperial maritime customs. In 1901, 25,500 pounds were exported, valued at $5,025.30. In 1902, the year of the big boom, the quantity exported was 55,100 pounds, valued at $9,265.90. This was far below what was expected under the new arrangement. In 1903, during the trouble over the monopoly, the export fell to 21,600 pounds, valued at $3,467.10, and in 1904 it fell still further, to 17,200 pounds, valued at $2,494.80.

There is at present considerable camphor coming down from the interior, and there is promise, therefore, of a better record than for several seasons past. It is evident that camphor can be made in this province at a profit and that there is life in the business if it is in proper hands. It seems probable that the Chinese traders themselves will be able to do something with it in the near future if there is no more trouble over the monopoly concession. At present those who have to do with the business complain that no more than two-thirds value can be obtained from the Japanese monopolists for the camphor brought down. Indeed, there is reason to believe that one of the chief objects of the Japanese in seeking control of the camphor trade of this province is that they may regulate prices so that the Formosan

camphor market will not be unfavorably affected. They are able to manipulate things in China at the present time in a way that works to their ends, even though the monopoly is not maintained.

GEORGE E. ANDERSON, *Consul.*

AMOY, CHINA, *March 25, 1905.*

EPIDEMIC MENINGITIS.

Under date of April 26, 1905, United States Consul-General Richard Guenther, of Frankfort, Germany, transmits the following translation of an article from the German Medical Weekly Journal relative to the treatment of "meningitis cerebro-spinalis epidemica," contributed by Dr. B. Kallmeyer, of St. Petersburg:

In the last few weeks news has been received from eastern Germany and from the United States of the occurrence of epidemic meningitis (Genickstarre) to an alarming extent. As most physicians have never treated this very rare disease, as the therapeutics relating to it are not at all established, and as more than 50 per cent of the cases have so far proved hopeless, I take the liberty of giving a plan for the treatment of the disease for such of my colleagues as do not care to lose time with experiments. This plan was formulated as a result of close critical sifting of the literature available up to 1894, and also from my own hospital experience in sporadic cases.

I succeeded by following these rules in curing two very severe cases of infectious cerebro-spinal meningitis.

1. Rubbing in of mercury, quinine, and other febrifuges, as well as bleeding, are useless.
2. Leeches are permissible in only a few cases.
3. Subcutaneous narcotics, especially morphine, may be required, but it is better to do without them.
4. Internal laxatives, especially calomel, may be prescribed once at the beginning of the disease; later on, if necessary, only injections.
5. The use of arsenic internally, or, still better, hypodermically, is harmless and useful. It must begin at the moment when the disease has been diagnosed. The doses have to be constantly increased. Slight fever does not count as a counter indication.
6. Warm baths (26° to 28° Reaumur, with douching from 25° to 26° Reaumur) ought to be prescribed as early as possible. They should not be repeated more than once a day. Four attendants take hold of the corners of the bed sheet and lift the patient into the bath, where he remains for eight to fifteen minutes upon the sheet, and is then removed to the bed in the same manner.
7. It is absolutely necessary to maintain the action of the heart by injections of camphor.
8. The greatest attention must be paid to rational and strengthening nourishment of the patient.

Of course, I do not at all consider these recommendations a specific mode of treatment; but in view of the scattered and few data concerning the treatment of epidemic cerebro-spinal meningitis they may perhaps serve some colleague at this moment as a guide.

The last number of the Vienna Clinical Weekly Journal reports a very interesting essay by Doctor Tobler, assistant physician at the children's clinic at Heidelberg, with reference to "lumbar punction," the new treatment for epidemic meningitis. Doctor Tobler has had very favorable results through this treatment in various diseases of the brain where the pressure of the cerebro-spinal liquor is obviously increased. The more liquid exists, the more may be removed by the surgeon. In the case of a 9-year old girl with epidemic meningitis 100 cubic centimeters were removed in quick succession with the very best result. In two cases of hydrocephalus of infants less than 1 year old, 450 cubic centimeters, equivalent to 650 grams, were removed in one long operation. In tubercular and pussy inflammation of the brain this treatment proved to be perfectly useless.

Like other clinical surgeons, as Heubner, Hoplik, Wilms, and Schiff, Professor Tobler gained remarkable success in seven cases of epidemic meningitis (14 punctions). In other cases even this treatment failed. When the pressure of the cerebro-spinal liquor was not too high, the success of lumbar punction was very obvious; there was lessening of the headache, quiet sleep, increased appetite.

It is to be hailed with joy that science has several remedies to fight this terrible disease. While formerly one was helpless against the ravages of the "meningolokken," it seems now to be possible to snatch numerous patients from death by employing lumbar punction and hot baths. A special proof of the efficiency of punction is the fact that in cases of relapse another punction produced immediate improvement even cure.

FOUR MONTHS OF BRITISH TRADE.

(From Vice and Deputy Consul-General Westacott, London, England.)

The British Board of Trade returns of the imports and exports of the United Kingdom for the month of April, 1905, and for the four months ended April, 1905, compared with the same periods in 1904 and 1903, show that while imports have declined, exports have largely increased. Imports into Great Britain in the four months ended April, 1905, were $6,110,499 less than in the same period of 1904; on the other hand, exports from the United Kingdom of all kinds in the four months to April, 1905, were $37,883,942 greater than in 1904, and $44,483,237 greater than in 1903.

The principal increases in imports occurred in raw wool, food and drink (dutiable), and woolen fabrics; the main decreases in raw cotton, oilseeds, and food and drink (nondutiable). In the exports from the United Kingdom of British and Irish produce the chief increases were in cotton and wool fabrics, machinery, iron and steel manufactures; in fact, manufactured articles were responsible for nearly the entire

increase. In the exports of foreign and colonial merchandise increases are most noticeable in raw wool, hides, and machinery, and decreases in raw cotton, cutlery, and hardware.

Imports and exports of the United Kingdom, April and four months ended April, 1903, 1904, 1905.

Month or period.	Imports.	Exports.		
		British.	Foreign and colonial.	Total.
April:				
1905	$210,595,470	$117,469,854	$30,677,817	$148,147,671
1904	219,857,049	114,288,944	32,923,541	147,212,485
1903	213,160,024	112,593,059	32,065,679	144,658,738
Four months ended April:				
1905	889,673,747	498,661,159	130,663,035	629,324,194
1904	895,784,246	465,796,213	125,644,039	591,440,252
1903	863,244,915	466,812,489	118,028,468	584,840,957
Increase (+) or decrease (−):				
April, 1905, compared with April, 1904	− 9,261,579	+ 3,180,910	− 2,245,724	+ 935,186
April, 1905, compared with April, 1903	− 2,564,654	+ 4,876,795	− 1,387,862	+ 3,488,933
Four months ended April, 1905, compared with same period, 1904.	− 6,110,499	+32,864,946	+ 5,018,996	+37,883,942
Four months ended April, 1905, compared with same period, 1903.	+26,428,832	+31,848,670	+12,634,567	+44,483,237

RICHARD WESTACOTT, *Vice and Deputy Consul-General.*
LONDON, ENGLAND, *May 12, 1905.*

MONEY IN PARAGUAY.

(From United States Vice-Consul De Korab, Asuncion, Paraguay.)

I find in the Monthly Bulletin of the International Bureau of the American Republics for January, 1905, a note on Paraguayan coins, which says: "Paraguay has no gold or silver coins of its own stamping. The silver peso of other South American Republics circulates there and has the same value as in the countries that issue it." The first part of this statement is quite true, but no silver pesos circulate here. Paraguayan paper is the only currency of the country.

The nominal gold standard is the Argentine gold peso, the value of which is 96.5 cents, United States currency. Consequently the American dollar is worth $1.036 Argentine gold, and at Buenos Aires it is accepted at that valuation. But in Paraguay, by a curious anomaly, the American dollar is worth only $1.02 Argentine gold. This ought to be changed and will be so by increased commercial intercourse between Paraguay and the United States.

The Argentine gold peso has an average value of 10 Paraguayan (paper) pesos. Slight fluctuations occur frequently—the most notable ones were during the revolution in 1904. At the beginning of 1904 the rate of exchange of gold was 875, that is, $100 Argentine gold were bought for $875 Paraguayan paper, or $1 Argentine gold equaled $8.75 Paraguayan paper. This rate was artificially maintained until

the beginning of March, when gold rose to 900. At the end of June it was at 1,030 and August began with the same rate. These rates are the official ones published by the Asuncion Chamber of Commerce, but they furnish only a general and rather vague indication of the true rates. Actually gold was sold at rates from 20 to 50 and even 100 points higher than the quotations of the chamber of commerce.

In August the revolution broke out and the state of siege was proclaimed. The value of gold rose rapidly, and at the end of August it was at 1,200. In September it reached 1,230, in October, 1,245, and on November 1, 1,250. Until November 17 gold rose steadily, reaching on that day 1,400, the highest mark during the whole period. But, as I have said already, these quotations are optimistic. In those days gold actually sold at 1,540 and in at least one instance at 1,580. At that time the preponderance of the revolutionary party appeared to be assured, and the gold rate went on decreasing slowly, reaching 1,300 on November 30 and 1,200 on December 10, two days before peace was made. Two days after the ratification of peace gold went down to 1,040 and at the end of December, 1904, the rate was 1,020. At present (March 20, 1905) the rate is 1,060.

WALDEMAR C. DE KORAB, *Vice-Consul.*

ASUNCION, PARAGUAY, *March 20, 1905.*

NEW METHOD OF TESTING LUBRICANTS.

(From United States Commercial Agent Harris, Eibenstock, Germany.)

Lubricants are employed to prevent contact and minimize friction between rubbing surfaces, especially in revolving mechanical parts. They thus lessen heating, waste of power, and wear. To prevent direct contact the lubricant must be sufficiently viscous to withstand the pressure on the bearings. The temperature is naturally higher at the points where oil is most needed, and with increasing temperature the viscosity of most oils diminishes very rapidly. Different oils have also widely differing internal frictional resistances, which are greatly affected by the temperature and velocity of the rubbing surfaces. Internal frictional resistance increases the amount of heat generated by the friction in the bearings; hence oils with minimal internal frictional resistance should be chosen. These considerations show the importance of testing lubricating oils with regard to both their viscosity at particular temperatures and their internal frictional resistance at particular temperatures and velocities.

In some cases the thickness of the oil is the more important factor, in others the internal frictional resistance. In the few main bearings of large machinery less importance attaches to the internal frictional resistance than to the requisite viscosity of the lubricant at the highest

temperature likely to occur, so that a sufficiently thick supporting layer between the rubbing surfaces will be maintained in spite of the high pressure on the bearings; for in this case the loss by friction is of little moment in comparison with the total output of power. In other cases, however, where the losses due to friction in the bearings constitute a large proportion of the entire power consumed, as, for example, where extensive shafts drive numerous small machines, any slight addition to the frictional resistance at each bearing surface has a marked influence upon the total consumption of power. This, of course, affects the economy of working, and in such cases an oil should be chosen which minimizes the frictional resistance.

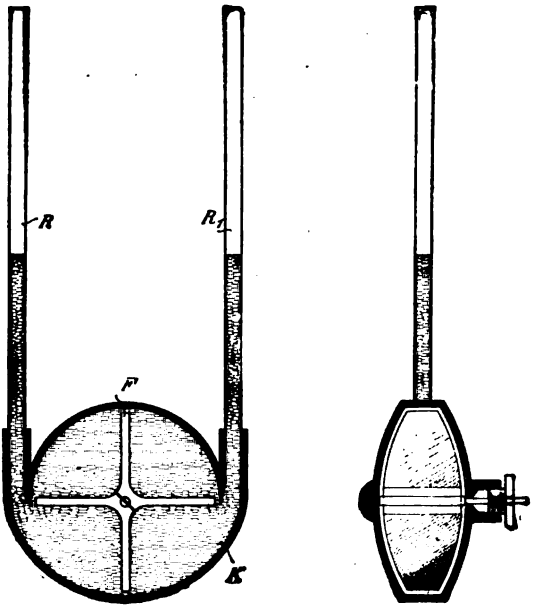
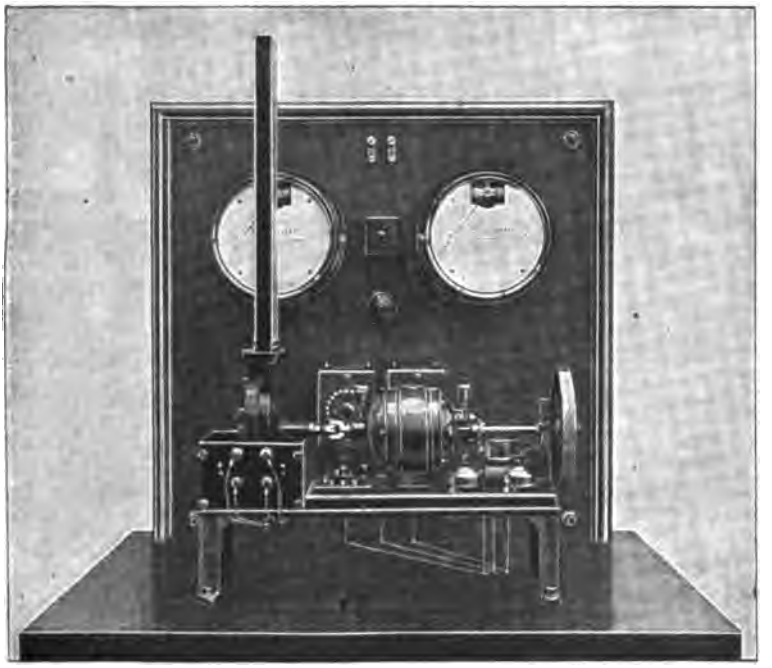
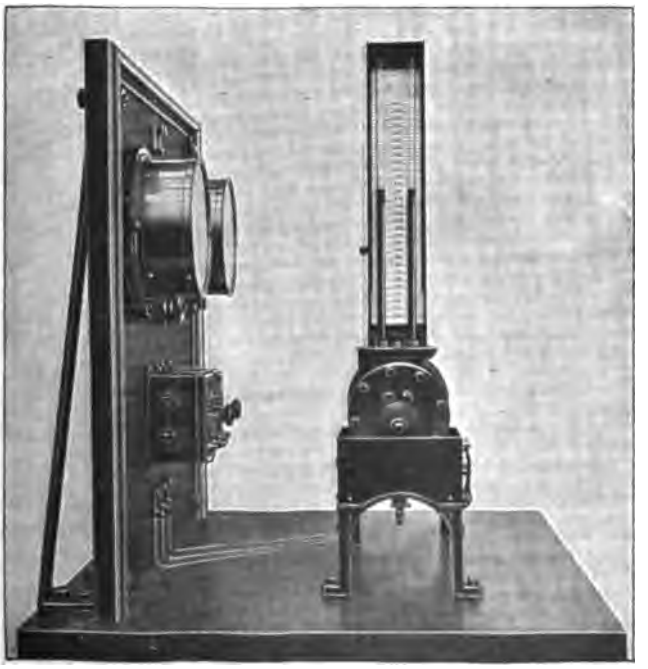


FIG. 1.—Diagram of apparatus for testing lubricants.

For the purpose of determining these two characteristic physical properties the Gebrüder Körting Electrical Company (Limited), Berlin, has devised an important method of testing lubricants. The following description will serve to give a clear idea of the machinery used. In figure 1, K is a closed chamber which is filled with the lubricant to be tested. Within this chamber a fan F is made to rotate, the driving shaft projecting from the side of the chamber through a stuffing box. The fluid in chamber K has two communicating tubes, R and R_1, fitted to it, in which the lubricant rises about to the middle. When the fan is started the oil in the chamber is compelled to participate in the motion, and hence friction is established between the moving portion of the lubricant in the chamber and the stationary portion in the





FIGS. 2 and 3.—Apparatus for testing lubricants.

tubes. The frictional resistance thus produced causes the oil to rise in one tube and to fall in the other. The difference in the levels of the fluid columns, taken in conjunction with the specific gravity and temperature of the oil and the velocity of motion, affords a measure for the internal frictional resistance of the lubricant.

Figures 2 and 3 show an apparatus by means of which various lubricants may be tested by the method just described. In front will be seen the chamber with its two vertical tubes. The chamber rests in a large vessel serving as a heating bath. The shaft projecting through the side of the casing is coupled to a small electromotor, by which the fan is set in motion. The uniformity of the motion is increased by a small fly wheel. The speed of the electromotor is variable within wide limits, so as to afford a convenient means of determining the connection between the frictional resistance and the velocity, and the bath surrounding the oil chamber, which may be heated electrically or in some other suitable manner, provides means of testing oils at different temperatures. The energy consumption of the motor also furnishes a measure for the viscosity of various lubricants used under similar conditions, that is, when temperature and speed is the same; or a particular oil may be tested at different temperatures with a constant speed.

The speed of the motor is regulated by finely graduated resistances, and the revolutions are counted by a speed counter, while the energy used is indicated by an amperemeter and voltameter, and the temperature by thermometers. The result of the test is readily ascertained after a few readings. This method enables factory managers to select lubricants best adapted for their plants and to test the value of lubricating oils offered to them.

ERNEST L. HARRIS, *Commercial Agent.*

EIBENSTOCK, GERMANY, *May 9, 1905.*

AMERICAN ROLLING STOCK IN ARGENTINA.

(From United States Minister Beaupré, Buenos Aires, Argentina.)

In a dispatch of August 26, 1904, published in the Daily and Monthly Consular Reports in October, 1904, I reported, as an illustration of the trade opportunities that abound in this country, an extensive order for railway cars secured almost accidentally by a representative of several American companies during a sojourn in this city. Deliveries on the order have commenced. I inclose a clipping from the Buenos Aires Herald of April 4, in which a portion of the rolling stock to be used is described more in detail. The fact is emphasized that these cars are built for a narrow-gauge line and that they are of dimensions unusual

on the narrow-gauge lines of this country, approximating the capacity of cars built for standard and broad-gauge lines. In Argentina all three gauges are in general use, each with its staunch advocates, and the narrow-gauge lines, far from passing out of favor, are increasing in use and are considered the only economical lines for certain purposes and districts.

A. M. BEAUPRÉ, *Minister.*

BUENOS AIRES, ARGENTINA, *April 5, 1905.*

(From Buenos Aires Herald of April 4, 1905.)

Goods wagons for use on narrow-gauge (meter [39.37 inch] gauge) railways are now being constructed of such great carrying capacity that they closely approach the best modern practice on standard (4 foot 8½ inch gauge) and broad gauge (5 foot 6 inch) lines. As an example of what is being done by the narrow-gauge lines we would call attention to a lot of steel underframe wagons under construction for the National Northern Railway of Argentina in the United States, the first lot of which is now being delivered. When the work of constructing the extensions from Serrezuela west to a connection with the Argentine Great Western at San Juan, and from Rioja to Andalgala with branch lines, a contract was made with the Middletown Car Works, of Middletown, Pa., for the construction of 250 covered, 100 high side, 150 flat (with stakes for timber traffic), 90 stock and 25 tank wagons of 30 metric tons capacity each, the details of the wagons being largely left to Mr. G. I. King, vice-president, manager, and engineer of the company's works, the general specification and requirements being those drawn up by the Argentine ways of communication office of the ministry of public works.

The flat wagons measure 34 feet 4 inches in length over the floors, and 8 feet 8¼ inches in width over all. As the floor of the wagon is 7 feet 9 inches wide inside the stakes, there are 266 square feet of floor surface, and the covered and high-side wagons have practically the same. The underframes are designed to support a uniformly distributed load of 44 metric tons, including dead load, with a deflection at the center of one-half inch. The center sills are of 10-inch 15-pound channels spaced 14 inches apart and covered with ¼-inch top and $\frac{3}{16}$-inch bottom plates, forming a box girder. The side sills are 12-inch 20½-pound channels, supported by the end sills, bolsters, and six intermediate cross frames, the end sills being made of Z-bars, a type patented by Mr. King. The axle bearings, boxes, etc., and a number of the other parts of the cars have been made to comply with the standard of the Master Car Builders' Association of the United States (carriage and wagon superintendents), and the wheels, of cast iron with chilled threads and flanges, weigh 227 kilos each. It may be stated here that steel-tired goods-wagon wheels are in almost universal use in this country. The flat wagons weigh, complete, 9 tons 150 kilos, which is a low weight for the carrying capacity. A test load of 40 tons of pig iron was placed on some of them without exceeding the one-half inch of deflection specified at the center. Special attention was given in designing the wagons to such details as would admit of their prompt delivery and easy erection on delivery, and they were built under the

supervision of Sr. M. Elordi, of the office of Sr. Guillermo Dominico, M. I. C. E., inspector-general of railways. The entire lot of wagons will be shipped at New York in steamers of the Houston Line direct to Rosario. The stock and tank wagons are to be equipped with automatic vacuum brakes and the others will be piped to admit of their being run in mixed trains.

WHEAT SITUATION IN SPAIN.

(From United States Consul-General Ridgely, Barcelona, Spain.)

It has been rather positively stated in recent reports that there is a strong demand for American wheat in Spain, and that American sellers would do well to offer their grain at once in these markets. In reporting the recent royal decree reducing the import duty on wheat and flour because of the short crop in Spain, I was careful to call attention to the facts as they existed, without overcoloring the prospect for American wheat in Spanish territory, and I now consider it proper to submit this additional report, from which it will be seen that there is no particular demand at present, and that a demand can be created only under certain conditions.

During the past twelve months large shipments of wheat have been made to Spanish ports. Between October and December last no less than 112,200 tons of foreign wheat were cleared through the Barcelona custom-house, and the following official returns give the statistics of the total imports of wheat into Spain during 1903 and 1904:

Imports of wheat into Spain in 1903 and 1904.

Whence imported.	1903.	1904.
	Metric tons.	*Metric tons.*
United States	267	.....
France	8	5,268
Roumania	.....	3,426
Russia	80,366	148,457
Other countries	10,163	65,011
Total	90,804	222,162

Under normal conditions a certain quantity of foreign wheat is required annually to strengthen the fine white wheat of Salamanca and Valladolid, the glutinous wheat grown in the province of Aragon not being nearly sufficient for the requirements of the home consumption. The grain shipped from Russian Black Sea ports is found the most suitable for this purpose, though some qualities of United States wheat, such as Duluth, can also be used.

The failure of last year's crops caused a heavy increase in the importation of foreign wheat, for besides the usual arrivals from the south

of Russia, large shipments were received from British India, notably from the port of Kurrachee. Wheat was also received from Australia which is found to closely resemble the white Castile grades, although somewhat inferior in quality. This year the chief imports have thus far been from Danubian ports, owing to the lower prices ruling there. I am unable to learn of any American wheat having been bought. In order to ascertain the cause, some of the leading importers were asked their views on the subject, and the information gathered shows that it is simply a question of price. Had United States wheat been obtainable here at the same prices as other sorts it would have found a market, in spite of the fact that the conditions required by American shippers are not as favorable to the buyer. Russian and Danubian wheat is sold "sous palan," or delivered alongside the vessel at port of dischārge, and as the wheat is received and weighed it is paid for by sight drafts on London or Paris. American shippers, on the other hand, sell only on c. i. f. terms, and draw either against bank credit or on the buyers direct, the shipping documents being delivered against payment on acceptance of the draft. These terms naturally are less advantageous to the buyers, but as they are, generally speaking, firms of high financial standing, the difference in the conditions of payment would not be a bar to business if the selling prices were suitable.

The following are to-day's quotations (May 5) for foreign wheat per 100 kilos (220.46 pounds):

Danubian.—Weighing 176 pounds per hectoliter (2.838 bushels), $3.57 to $3.60.

Russian.—Oulkas, weighing 259½ to 275 pounds per 4½ bushels, $3.37 to $3.60; azimas, weighing 268 to 282 pounds per 4½ bushels, $3.47 to $3.76, deliveries alongside vessel at port of discharge, port dues payable by shippers, viz, 88 cents per metric ton for vessels from European ports and 98 cents for vessels from non-European ports.

River Plata.—Weighing 171 to 178 pounds per hectoliter (2.838 bushels), $3.37 to $3.51, c. i. f. Barcelona; port dues payable by the receivers. The quality is classified according to its specific weight.

If United States wheat were offered here to-day at 17.5 to 18 francs ($3.40 to $3.50) per 100 kilos (3.666 bushels) c. i. f. Barcelona, it could probably be sold in competition with the Danubian wheat. The prices above quoted would mean about 95 cents a bushel.

The recent rains, though still insufficient, have greatly improved the prospects of the crops here, and should further rain fall within the next month it is by no means improbable that a considerable quantity of the wheat bought speculatively for forward delivery may not be required. I am also informed that native wheat has been warehoused in anticipation of the expected failure of this year's crops. What quantity is thus being held back I have been unable to ascertain, but

should crop prospects improve very materially before July these stocks of wheat will be at once thrown on the market.

The greatest of European wheat brokers are Messrs. Ralli Brothers, of London and Marseille. This firm has agents everywhere, and is the most important single factor in the sale of imported wheat in Europe.

BENJ. H. RIDGELY, *Consul-General.*

BARCELONA, SPAIN, *May 5, 1905.*

PRIZES FOR ESSAYS ON LEAD POISONING.

(From United States Consul-General Wright, Munich, Germany.)

The Internationales Arbeitsamt, in Basel, Switzerland, has offered the following prizes for essays on means of combating lead poisoning:

1. A prize of 5,000 marks ($1,190) for the best essay upon the most practical method of eliminating the danger of lead poisoning during the process of handling lead ores.

2. A prize of 10,000 marks ($2,380) for the best essay upon the elimination of the danger of lead poisoning in lead-smelting works.

3. Two prizes, one of 2,500 marks ($595) and a second of 1,500 marks ($357), for the best essays upon the elimination of the danger of poisoning in chemical and electrical works where lead is in use.

4. Four prizes, one of 1,500 marks ($357), a second of 1,000 marks ($238), and two of 750 marks ($178.50) each, for the best essays upon the most practical method of avoiding lead poisoning in trades such as painting, enameling, etc.

5. Four prizes, one of 1,500 marks ($357), a second of 1,000 marks ($238), and two of 750 marks ($178.50) each, for the best essays upon the elimination of the danger of lead poisoning in factories where large quantities of lead are used, as, for instance, in type foundries, printing establishments, etc.

The essays must contain a systematic description of the source of lead poisoning, in which the mode of production is described and the dangers existing in each stage of the process, in transportation, etc., are mentioned. Other causes of lead poisoning are also to be given, as, for example, working too long at a certain process, uncleanliness, insufficient knowledge on the part of the workmen, bad or insufficient food, irrational mode of living, and unhealthy apartments.

The proposals made must give the possibility of elimination of the danger in such a manner that no objection can be made on technical, hygienic, or economic grounds. The dangers are to be given, so far as possible, in classes, in order to make it clear at what stage of the process or under what conditions there is greatest and least danger.

In proposals for new apparatus or alterations in process, the cost and saving involved in such proposals must be given. For instance, in a proposal for substituting a mechanical process for hand work, the cost of the machines, loss by depreciation and interest, and, on the other hand, the wages and other expenses saved must be mentioned. The advantages gained by such methods, as, for instance, the avoidance of frequent changes in the staff, the training of a good staff, and increase in ability must also be given.

It is preferable that the essays contain proposals for improving the existing laws upon this subject in all States, and the alterations in legislation which would be necessary to carry out the proposals. They could also contain copies of proposed instructions to be affixed in factories for the guidance of the workmen.

The present laws upon this question are contained in the volume Gesundheitsgefährliche Industrien, issued by G. Fischer, Jena, 1903, and in the Bulletin des Internationalen Arbeitsamtes, 1901–1904. These books can be found in the following libraries in America: Library of the University of Chicago; City of Denver Public Library; Library of the Institut Medico Nacional, City of Mexico; Institute of Mining and Metallurgy, New York, and Library of Columbia University, same city; Omaha Public Library; Pueblo (Colo.) City Public Library; Library of the Washington University, St. Louis; City Library, Salt Lake City.

All the proposals made in the essays must be clearly summarized at the end thereof.

Papers may be written in English, French, or German. Printed books will not be admitted. The completed manuscript must simply bear a title on the cover. The name of the author is to be inclosed in a sealed envelope which bears the title of the essay. The essays must reach the Internationales Arbeitsamt in Basel by December 31, 1905. The Internationales Arbeitsamt will have the right to publish the prize essays, although the author retains the right of literary ownership. Articles not published will be returned to the authors. Should the 27,000 marks ($6,426) not all be used, the remainder may be devoted to any cause in the interest of the health of workmen. The names of the judges will be published at a later date.

All communications must be addressed to "Das Internationales Arbeitsamt, Basel, Switzerland," and should be sent by registered mail.

WM. F. WRIGHT, *Consul-General.*

MUNICH, GERMANY, *April 15, 1905.*

GERMAN COMMERCIAL TREATY WITH THE UNITED STATES.

Under date of May 1, 1905, United States Consul-General Richard Guenther, of Frankfort, transmits the following extract from a memorial of the chamber of commerce of that city to the chancellor of the German Empire, requesting that the wishes of the chamber be duly considered when a commercial treaty with the United States is negotiated:

It is desirable to effect a long-term tariff treaty with the United States, provided we do not repeat granting them the benefits of our entire convention tariff and receive in return insignificant concessions; nor is the United States to levy higher tariff rates on goods [coming under proposed treaty arrangement] than those levied by Germany.

Furthermore, we must strive to get the United States to substitute specific rates for ad valorem duties on those articles which have formed the subject for arbitrary treatment by its customs authorities.

To show how severely the prohibitory tariff rates of the United States act upon leading products of German industries, the memorial quotes the American tariff rates on many articles, and, for comparison, the rates levied on the same articles by the German tariff schedule. The chamber holds that the tariff convention of July 10, 1890, was exceedingly hurtful to German commerce and manufacture. Germany thereby accorded to the United States all the privileges of German commercial treaties with other countries, whereas the United States made only relatively trifling reductions on a few articles.

CHEAP LODGING HOUSE IN MILAN.

(From United States Consul Brush, Milan, Italy.)

The Popular Hotel (Albergo Popolare) in Milan, for men only, which was opened in the year 1901, and which formed the subject of a consular report from this office in the November, 1901, issue of the Consular Reports (No. 254), has proved a great boon to that class of people whose means impel them to take advantage of the very low prices charged for meals and washing and sleeping accommodation. The cooperative society (a benevolent institution) which was responsible for the Popular Hotel has now erected in Milan a dormitory which provides lodging for the night at the low charge of 4 cents, which may be reduced later to 3 cents. It is hoped that this dormitory will be followed by others.

The dormitory is divided into large rooms, with beds for 360 people. The men's portion is apart from that of the women and children and has a separate entrance. Certain accommodation has also been provided for families, so that they need not be separated. The whole

of the building is steam heated and is provided with electric light. Ample washing arrangements, both for personal ablutions and for laundry work, are included. The cost of erection, exclusive of land and furnishing, was $38,600. The area on which the building is erected is 3,344 square yards; the whole area purchased was 3,588 square yards, at a cost of $5,790.

This new dormitory is for a class of people who can not afford the higher price of the Popular Hotel, which is frequented by a respectable class of people in indigent circumstances.

Another benevolent society, with a purely charitable programme, is studying and working for the erection of night refuges, in which, without any charge whatever, people without a home can find shelter and warmth for the night. The first of such refuges was opened last year, and the benefits conferred on the miserable poor are so apparent that it is hoped that other refuges will soon be opened.

H. W. BRUSH, *Consul.*

MILAN, ITALY, *April 16, 1905.*

CANADIAN CUSTOMS DECISIONS.

(From United States Consul-General Holloway, Halifax, Nova Scotia.)

Tariff decisions have been ratified by the Dominion customs board as follows:

Lithographic presses, dutiable at 10 per cent, and not free, as claimed by certain importers.

Tram silk, boiled, dutiable at 20 per cent.

Mimeographs, rotary and oscillating, dutiable at 25 per cent under tariff item 315.

Pictorial "cut-outs"—that is to say, lithographed pictures on cardboard, embossed or not, with the outlines of the picture cut out by stamp or die—dutiable at 20 per cent under tariff item 130.

Refined cocoanut oil, not further manufactured than bleached or refined, dutiable at 20 per cent as an unenumerated article.

The question having arisen as to the rate of duty on stereotyping outfits, such as curved casting molds, "cutting-off" cylinder, power shaving machine, iron-top imposing table, stereotype-metal furnace with pump, imported along with printing press, such articles were declared to be dutiable at 10 per cent under tariff item 313 as type-making accessories, and not to be included under the designation of a printing press in the free list. Electric motor rheostat and other electrical appliances for use in connection with printing presses were declared dutiable at 25 per cent as electrical apparatus, and not free of duty as parts of printing presses. A soldering flux in a fluid state made from an acid and zinc was declared to be dutiable at 20 per cent.

Microscopes valued at not less than $100 each were held to be entitled to free entry when used for surgical purposes.

W. R. HOLLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *May 9, 1905.*

AMERICAN BENEVOLENT SOCIETY AND HOSPITAL IN MEXICO.

(From United States Consul-General Parsons, Mexico City, Mexico.)

The report of the American Benevolent Society of Mexico City for 1905 has just appeared in pamphlet form, and shows that the society is doing good and effective work. The society was founded in 1868. The corner stone of the American Hospital was laid in 1886 by the American minister, Gen. H. R. Jackson. The hospital has been quite heavily endowed from time to time by a few individual philanthropists. Benefits at the circus, theaters, etc., have also gone to support the institution. The charity ball of last Thanksgiving netted some $16,000 Mexican ($7,280 United States)[a] for its benefit. There is also a subscription list, and donations of supplies are frequently made.

The number of patients in the hospital at the beginning of the year 1904 was 22; the number taken in during the course of the year, inclusive of 5 births, was 439; the number discharged was 409; the number remaining in the hospital on the last day of the year was 14, and the number of deaths during the year was 38. It is thus seen that the percentage of deaths was 8.24 per cent. As 9 of the patients, however, were brought to the hospital in a moribund condition, these figures do not give a fair idea of the death rate. Leaving out of consideration these 9 cases, the rate of mortality was only 6.29 per cent, against 8.79 per cent in the preceding year. Of the 461 cases treated, 106, or about 23 per cent, were fever patients—54 malarial, 36 typhoid, 3 scarlet, 5 typhus, 1 pernicious, 3 intermittent, 2 gastric, and 2 enteric. Of these cases 385 were males, while only 76 were females. Other than Americans are also cared for. During the year the hospital received patients of the following nationalities: British, 60; German, 37; Mexican, 6; Italian, 2; Japanese, 1; Danish, 1. The average daily number of patients was 20, the number of attendants 18, the house staff 7, and the average of special nurses 1, which makes a daily average of 46 inmates.

The patients are of three classes—private, subscribing, and free. Private patients are furnished with board, lodging, and ordinary nursing, but not the exclusive service of a nurse, nor are they furnished with medicines, liquors, or medical attendance. The price is $25

[a] According to United States Treasury estimates, the Mexican dollar was valued at 45.5 cents in 1904. The reductions throughout this report are made on that basis.

Mexican ($11.35) per week in the general ward, and from $35 to $60 Mexican ($15.93 to $27.30) per week in private rooms. They have to arrange for their own physician, medicine, and liquors on a separate account. Subscribing patients, those who are members of the American and other subscribing benevolent societies, paying not less than $2 Mexican (91 cents) per month regularly, are admitted to the subscribers' ward free of all charges for board, nursing, and medical treatment if attended by the house surgeon. They are admitted to the contagious ward free of all charges for board, room, and medical treatment, if attended by the house surgeon, but they must furnish their own nurse. They are admitted to private rooms under the same conditions upon the payment of $10 Mexican ($4.45) per week less than the price established for the room, except that in cases of confinement or surgical operations the attendance of surgeons and all dressings and supplies must be paid for extra. Patients of this class must have subscribed for three consecutive months before they will be accepted under the foregoing conditions. The free patients are citizens of the United States needing treatment and without means of support. They are admitted to the free ward. Patients requiring attendance beyond the ordinary facilities of the hospital are accommodated on special terms. Private patients affected with contagious diseases are admitted to the special building provided for such cases, and are charged $30 Mexican ($13.65) per week. This rate covers room and board only. Medical attendance and nurse are furnished by the patient.

An eighteen-room addition to the hospital is on the point of completion, which will cost in round figures $16,000 Mexican ($7,280).

The society's total cash on hand at the end of the year was nearly $5,000 Mexican ($2,275), while its assets amounted to $215,000 Mexican ($97,825), surely a good showing.

JAMES RUSSELL PARSONS, Jr., *Consul-General.*

MEXICO CITY, MEXICO, *April 8, 1905.*

EFFECT OF THE GOLD STANDARD ON MEXICAN TRADE.

(From United States Consul Griffith, Matamoros, Mexico.)

From information furnished this office by bankers, importers, and leading commercial houses of this consular district, the recent adoption of the gold standard by the Mexican Government has served to stimulate the inauguration of new business enterprises, as well as to strengthen confidence and credits. With a fixed rate of foreign exchange, the logical sequence of an unvarying monetary standard, importers are making lower prices, and many exporting firms in the

United States and Europe who had withdrawn their traveling sales men have notified old customers that the sending of these agents for the promotion of business will be resumed at once.

Business on the American side of the Rio Grande has also exhibited a more healthful and confident tone since the establishment of a fixed monetary standard by Mexico. This was to have been anticipated, as Mexican money is largely used on the American side, and its daily fluctuations in value could only have the effect of depressing trade and preventing that regularity desirable in commercial transactions.

P. MERRILL GRIFFITH, *Consul.*

MATAMOROS, MEXICO, *May 3, 1905.*

PURIFYING DRINKING WATER BY ELECTRICITY.

(From United States Consul-General Guenther, Frankfort, Germany.)

The Frankfort News states that it is probable that electric purification of drinking water will soon be introduced into the home. This method, already used by a number of municipal waterworks, is based upon the germ-killing effects of ozone, which is cheaply engendered by electricity. If an electric discharge takes place between two glass tubes, one inside the other, whose surfaces facing each other are coated with metal, ozone is developed in the space between the tubes.

Electricians have tried in recent years to simplify the means of electric ozone development for purifying water. The ideal apparatus would be one which every housekeeper could put up in the kitchen, and by utilizing the electric current of the common electric-light wires purify every glass of drinking water. According to the Frankfurter Umschau, such an apparatus seems to have been successfully made by a French engineer, Mr. Otto.

This apparatus is of very simple construction and takes up little space. It consists principally of a small, closed box, the metal cover of which is made conductory with the bottom. In the box is an ozone developer, an interrupter, and a tin tube. Through the latter the ozone, which first has to pass through a cotton stopper to free it from dust and germs contained in the air, is conducted into the water and mixed therewith. If much ozone has been absorbed, the water becomes phosphorescent in the dark. The most important part of the apparatus is the "mixer," action of which can be interrupted at will. The apparatus is capable of purifying about 60 gallons of water an hour, and the cost per hour is about the same as that of an ordinary electric incandescent light.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *April 26, 1905.*

CHILEAN NITRATE PRODUCTION AND TRADE.

(From United States Consul Mansfield, Valparaiso, Chile.)

According to a recent report of the nitrate association the production of nitrate in Chile in 1904 amounted to 1,694,665 tons, which is 80,230 tons in excess of the production in 1903. The total quantity exported was 1,630,488 tons, or 45,745 tons more than in 1903. The deliveries for consumption in 1904 totaled 1,687,777 tons, which is 6,403 tons in excess of the deliveries in 1903. In the nine months ended December 31, 1904, the production amounted to 1,378,092 tons, or 112,696 tons more than in the corresponding period of 1903. In the same months in 1904 the exports amounted to 1,287,706 tons, an excess of 50,692 tons over the exports in the nine months ended December 31, 1903.

Under the combination agreement the yearly exportation of nitrate can not be less than the quantity consumed in the previous year ended April 30. It is of interest, therefore, to learn that the consumption during the nine months ended January 31, 1905, was 4,051 tons less than in the corresponding period of the previous year.

The weather in Europe in January and February is unpropitious for the use of nitrate, but it is believed that the total consumption in the five months ended May 31, 1905, will exceed that of the corresponding period of last year. In Europe, for instance, there was a decrease of 31,131 tons, while in the United States there was an increase of 27,724 tons and in other countries an increase of 10,186 tons, these two increases more than compensating for the decrease in Europe. It is also shown that Cape Colony and Natal have commenced to use nitrate in appreciable quantities. Scotland's consumption increased by 12,581 tons; Germany's by 34,017; Netherlands' by 27,735, and Austria's by 6,302; while France's decreased by 45,621 tons; Belgium's by 26,266; Italy's by 31,108.

It was agreed among the producers of nitrate that from April to December, 1904, inclusive, only 80 per cent of the output should be exported. Under this agreement the exportable quantity was 1,552,977 tons, but the quantity actually exported in the nine months was but 1,287,706 tons, or 265,220 tons less than the exportable quantity. The total exportable quantity for the nitrate year is 1,941,158 tons, consequently the quantity exported represents but 66.3 per cent of the total, or if a total of 1,800,000 tons, which was the quantity announced as the maximum exportation of the year, be taken, the total exportation in the nine months represents 71.5 per cent of that quantity. Of the total quantity of 1,800,000 tons set down for exportation in the nitrate year ended March 31, 1905, there had been exported up to January 31, 1905, 1,428,449 tons, thus leaving 371,551 tons to be

exported in February and March. Although it is probable, says the report, that the works will be able to produce this quantity, it will not be possible to export it, for the reason that it is necessary to allow a month, or a month and a half, to pass from the date of production to that of shipment.

The delay in production has been caused principally by a scarcity of workmen. Men have been recruited from other provinces to supply the places of those returning to their homes in the south, and to labor in the new works which are being put up, but the number has not been sufficient to meet the requirements. The scarcity of hands will make itself felt in a greater degree in the coming nitrate year ending March 31, 1906, when the new and large works are ready to begin operations, and still more so if, as seems possible, it should become necessary to increase the exportable quantity. To the quotas mentioned in the previous circular there have been added three more, totaling 770,000 tons, thus bringing up the grand total to 2,588,500 tons. To this grand total there will have to be added very shortly the quotas corresponding to four new works.

Several changes in the ownership of works have taken place and three new producers have joined the combination. In all the nitrate zone there are thirteen new works in course of construction, of which two are in the province of Tarapaca and eleven in the province of Antofagasta. The erection of eight more is contemplated. The English producers have proposed that the contribution of five-sixteenths of a penny per hundredweight (112 pounds) for the purposes of propagandism shall be continued, and it is proposed to expend in the nitrate year 1905–6 the sum of $177,500 for this purpose in different parts of the globe. The largest sum assigned is $50,000, to the United States, and the smallest is $2,500, to Russia.

R. E. MANSFIELD, *Consul.*

VALPARAISO, CHILE, *March 31, 1905.*

AMERICAN SECTION IN THE FRANKFORT MUNICIPAL LIBRARY.

(From United States Consul-General Guenther, Frankfort, Germany.)

An American section is to be added to the municipal library of the city of Frankfort, which in the opinion of its promoters will become of great importance and benefit to German and American readers. A nucleus for such a section is already found among the volumes of the library, being a large collection of American publications donated by Mr. William B. Bonn, of Frankfort, who, until recently, was a member of the banking firm of Lazard-Speyer-Ellissen, of Frankfort, and Speyer & Co., New York, and who takes a lively interest in every-

thing which may promote a better understanding between Germany and the United States.

I herewith inclose a letter which fully explains the purposes of the American library, and of which a copy will be sent to the various departments of our Government at Washington, to the governments of the several States of the Union, the leading universities and educational institutions, the chambers of commerce, and the larger municipalities of the United States, and to all institutions in the United States whose publications may be of value to the reading public here.

There is no doubt whatever that the well-known liberality and public spirit of the citizens of the city of Frankfort will provide all the funds necessary to render this American library a credit to the city, and one which will be hailed with great satisfaction by scientists, statesmen, politicians, and industrial and commercial people of Germany, and by visiting Americans, who will have an opportunity of looking up American publications, which perhaps could not be found elsewhere in Germany.

The members of the committee, whose names appear in the inclosed letter, will be very grateful if the various departments at Washington will supply this American section with all the official publications which may be useful for the purposes indicated. They also request that their letter be printed in the Consular Reports, so as to bring the subject to the attention of all interested parties in the United States.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *April 13, 1905.*

Letter of committee for the establishment of an American section in the Municipal Library of Frankfort-on-the-Main, Germany.

FRANKFORT-ON-THE-MAIN, *April, 1905.*

Being convinced that the dissemination of more perfect knowledge concerning the political, social, economic, and intellectual life of the United States of America is urgently desired in Germany, and also that no German city is better fitted as a center for such purpose than Frankfort-on-the-Main, situated as it is in the heart of Germany, a committee has been formed to accomplish this end.

This committee consists of the following gentlemen:

Doctor Adickes, mayor of the city of Frankfort-on-the-Main.

Mr. Jean Andreae-Passavant, counselor of commerce, director of the Bank of Commerce and Industry, president of the chamber of commerce, consul-general of Roumania, Frankfort-on-the-Main.

Mr. Edward Beit, member of the banking firm Lazard-Speyer-Ellissen, Frankfort-on-the-Main.

Dr. Max J. Bonn, member of the banking firm Stern Brothers, London.

Mr. William B. Bonn, Frankfort-on-the-Main.

Mr. Otto Braunfels, counselor of commerce, member of the banking firm Jacob S. H. Stern, consul of Spain, Frankfort-on-the-Main.

Professor Doctor Burchard, rector of the Academy of Social and Commercial Sciences, Frankfort-on-the-Main.

Professor Doctor Ebrard, director of the Municipal Library, Frankfort-on-the-Main.

Professor Doctor Freudenthal, of the Academy of Social and Commercial Sciences, Frankfort-on-the-Main.

Mr. Richard Guenther, American consul-general, Frankfort-on-the-Main.

Mr. Charles L. Hallgarten, Frankfort-on-the-Main.

Mr. William Merton, Frankfort-on-the-Main.

Mr. F. A. Meyer, member of the city council, Frankfort-on-the-Main.

Mr. Max Hermann von Mumm, Frankfort-on-the-Main.

Mr. Richard Passavant-Gontard, counselor of commerce, vice-president of the chamber of commerce, Frankfort-on-the-Main.

Mr. Walther vom Rath, chairman of the board of directors of the color works, formerly Meister, Lucius & Bruening, Hoechst-on-the-Main.

Dr. Heinrich Roebler, Frankfort-on-the-Main.

Mr. Philip Schiff, Frankfort-on-the-Main.

Mr. Heinrich Schueler, of the Frankfurter Zeitung, Frankfort-on-the-Main.

Mr. Henry Seligman, Frankfort-on-the-Main.

Mr. James Speyer, of Speyer & Co., New York.

Dr. Carl Sulzbach, Frankfort-on-the-Main.

The committee is of the opinion that the desired end can be best accomplished by adding a section for American literature to the Municipal Library of Frankfort-on-the-Main, an institution which, with more than 300,000 volumes, ranks among the most important libraries of Germany, its main strength being in the departments of history, law, and political science.

This American section will be especially devoted to the philosophical, historical, judicial, political, industrial, commercial, and sociological literature of the United States. Such an American section of the Municipal Library of Frankfort would be extensively used by the widest circles, as this library is open to everyone, free of charge, and its large reading room is always available to the public.

The committee proposes to extend its work in two directions in order to accomplish its object:

(1) It intends to collect contributions to enable the Municipal Library to purchase such American literature as can be procured only from publishers and dealers. A considerable sum has already been secured in voluntary contributions from public-spirited citizens.

(2) The committee has furthermore decided to request the Government of the United States, as well as the governments of the several States of the Union and of the larger municipalities, also the most prominent universities and educational institutions, the scientific associations of the United States, the chambers of commerce, etc., to supply this American section with their publications, past, present, and future.

In this way the committee expects that the American section of the Frankfort Municipal Library will be enabled to collect much valuable

American literature, treating of all the problems of public life in America, its constitutional and economic history, administration, finance, transportation, commerce, industries, laws, customs duties, social science, etc., to the widest extent, thereby making it possible for the scientists and politicians not only of Frankfort, but of all of Germany, to acquire a thorough knowledge of American conditions.

In the hope that you will gladly assist an effort which will form an important link in the amicable relations between the United States and Germany, we respectfully request you to aid us by transmitting to the Municipal Library of Frankfort-on-the-Main, Schoene Aussicht No. 2, all such publications as are at your disposal, and to continue to send them regularly as they hereafter appear.

The Municipal Library will, if desired, gladly pay the expenses for packing and for postage or freight.

Should you desire more detailed information, Mr. James Speyer, of the banking firm of Speyer & Co., of New York, will gladly furnish it.

(Signed) ADICKES,
Mayor of the City of Frankfort-on-the-Main
and Chairman of the Committee.

RAISING OF THE ASSUAN DAM.

United States Consul-General John W. Riddle, Cairo, Egypt, transmits the following two articles from the London Daily Mail of March 25 and 27, 1905, relative to the Assuan dam:

The Egyptian Government has decided upon postponing—and this may mean abandoning—the scheme for raising the Assuan dam, and thereby increasing the supply of water for the irrigation of the country in the summer, and has taken this decision mainly because two mathematicians in London have developed a new theory regarding the stresses upon masonry dams.

This theory, which has been set forth in a paper entitled "On some disregarded points in the stability of masonry dams," was propounded by Mr. I. W. Atcherley, demonstrator in applied mechanics to University College, London, and Mr. Karl Pearson, professor of applied mathematics and mechanics, also at University College.

The whole matter is set forth in a lucid report of Sir William Garstin to the Egyptian council of ministers. He states that in the first instance he satisfied himself that there could be no risk to the structure in raising the dam, so as to enable it to hold water 6 meters (19½ feet) above the present maximum level in the reservoir. Later he learned of the new mathematical theory in a letter from Sir Benjamin Baker, dated last October. At his request Sir Benjamin came out to Egypt and made a personal study on the spot. The result is the report attached to Sir William Garstin's memorandum.

Sir William then sets forth the theory of Messrs. Pearson and Atcherley, remarking that their high reputation warrants the most serious attention being given to it.

Briefly stated, their theory is that the vertical sections of a dam, under water pressure, are more severely strained than the horizontal sections, and that while a dam designed under the rules hitherto

applied may be safe as regards cracking horizontally, it may, nevertheless, be liable to do so vertically. The matter is now engaging the study and attention of the principal mathematicians and hydraulic engineers in England and in France, and no doubt will give rise to much discussion. Eventually it is to be supposed that the specialists in both countries will arrive at a conclusion upon this most important theory, which affects all existing dams, and which must influence all future designs for such works. Meanwhile nothing can be done but a wait the results of further investigation.

The postponement of the raising of the Assuan dam is by no means entirely due to the "new theory" of the stresses to which masonry dams are subjected, advanced by Prof. Karl Pearson.

Such a vast volume of water is held up by the dam that at times the Nile has rushed through the sluices at the rate of 40 miles an hour. The rocky bed of the river on the lower side of the dam has been torn into great holes by the force of the water. To prevent this a subterranean "pavement" of masonry was laid down experimentally for short sections of the width to protect the bed of the Nile.

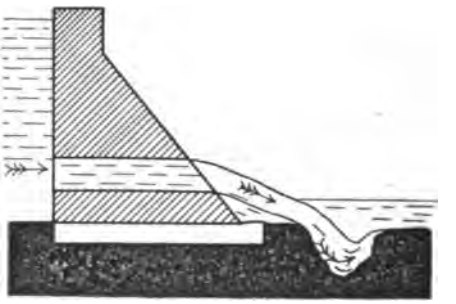


FIG. 1.—This figure clearly shows how the bed of the Nile is eroded by the sluices, necessitating the masonry "floor" or "pavement." Were the mischief left unchecked the holes would extend closer to the base of the dam and affect the structure itself. The blocks composing this floor must be accurately laid, for in one instance the water found a gap and lifted a block weighing 75 tons and carried it some distance away.

Sir Benjamin Baker's recent visit to Egypt was mainly to see how this protection was doing its work. As a result of the inspection he recommended that the floor of masonry be carried the entire length of the dam. This work will take two years. Sir Benjamin, who is the consulting engineer for the dam, explained some of the difficulties and problems connected with the great barrage to a representative of the Daily Mail.

"I found that the masonry protecting the bed of the river was standing the strain well," he said. "Where the rocky river bed was not so protected the water had torn many holes, in some cases 24 feet deep. These do not at present affect the dam, for they are 40 or 50 feet away from it. In the course of a few years they might extend closer to the base of the dam were the masonry protection not completed.

"With this mischief caused by the present 'head' of water, it would obviously be folly to raise the dam at once, and thus increase the force of the water by raising its level. This factor alone postpones any consideration of the raising of the dam for two years.

"As to the 'new theory,' it is not so much a discovery as a development. Professor Pearson would apply it to all masonry dams, but I am not prepared to go so far as that at present, but we are both working at it. The two years' breathing space given us by the present necessary work will enable scientific men to make up their minds as to its application to the Assuan dam.

"Generally speaking, I do not consider the postponement a bad thing, if only because it will stop the speculation in land. Private speculators have forced the price up to £30 [$146], even to over £100 [$486.65], an acre. When the speculators have unloaded, the land could not be remunerative to the cultivator at such prices.

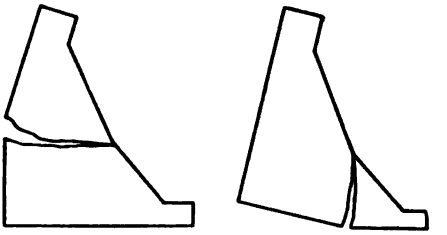


FIG. 2.—In this figure, *a* and *b* illustrate the "new theory" which has caused so much discussion. Formerly it was assumed that a masonry dam would "give" to water pressure as in *a*. It is now suggested that the whole dam would tilt over, and a vertical crack would develop as in *b*.

"It must be remembered that the Nile dam was not originally intended to be raised, though the margin for safety was so wide that when the raising was mooted it was considered practicable to do so.

"A site for a second dam is being sought for, and if it can be found such a scheme would be preferable to raising the existing barrage.

"Nothing has occurred at Assuan which was not anticipated, and certainly nothing which would cause any anxiety for the safety of the dam."

GINSENG IN CHINA.

(From United States Vice-Consul Cloud, Hangchau, China.)

There are no less than five varieties of ginseng recognized by the trade:

(1) Lao-shan yieh-shen, the wild or natural root found in Manchuria, the best grade coming from the province of Kirin. This seems to be the top variety of all ginseng, and retails at from $107 to $135 gold per tael (1⅓ ounces).

(2) Hsin-shan jen-shen, a cultivated variety closely resembling the wild root in appearance, but claimed to be much inferior thereto as a medicine. It is grown in various parts of northern China, and sells for $4 gold per tael (1⅓ ounces). There appears to be no market for this variety in Hangchau, and but little of it is sold in Ningpo.

(3) Hsi yang shen, known as "foreign ginseng" coming from the United States. It is held to be very much milder than the wild Manchurian root and inferior to it, and, according to my Chinese inform-

ant, to be medicinally different from the Manchurian variety. This "foreign ginseng" sells for not more than 65 to 70 cents gold for each 1⅓ ounces.

(4) Koa-li lao-shan yieh-shen, coming, according to the Chinese merchants, from Korea. It is much the same in appearance as the Manchurian root, but lacks in certain essentials. For each 1⅓ ounces of this variety the dealer gets about $2 gold.

(5) Kao-li hsin-shan jen-shen. This is supposed to come from Korea, but is a cultivated variety. It sells at from 30 to 35 cents gold for each 1⅓ ounces. There seems to be but little demand for it in this part of the country.

The Chinese merchants (druggists), when questioned closely as to the real difference between the wild root from Kirin and the cultivated variety from the United States, admit that this difference is mostly imaginary, although there is a real difference in the appearance of the roots, but that since the Manchurian ginseng comes from the Emperor's mother country and from the same soil out of which he, the Son of Heaven, sprang, the Chinese regard it as infinitely more efficacious as a "nourishing" medicine and as a "life-giving remedy" than ginseng from any other part of the world could possibly be. "Foreign ginseng" (American) is more easily crumbled into powder than the Manchurian, which is very hard, semitransparent, and so shaped as to resemble the Chinese character for man, the root being forked. The flintiness and transparency of the root are supposed to add to its medicinal properties, and are always looked for by a customer purchasing ginseng. Although it may seem absurd to Westerners, it is nevertheless a fact that the strange form of the root, so like the form of the human body, renders it more valuable in the eyes of the Chinese, the more so on account of its place of origin. It is certain that this superstition is largely responsible for the absurdly high price of Manchurian ginseng.

It is evident that no great quantity of any medicine that sells for $265 or $280 an ounce can be sold in China, where the amount of money per capita is so small. But as ginseng is looked upon by the Chinese as the one and only great cure-all, they are not so conscientious as to the brand of the root they take so long as they get ginseng. So it is that they turn to what they call "foreign ginseng" (the American) as being vastly cheaper and answering their needs. My Chinese druggist informs me that the people of Hangchau and Shaohing, which cities have a population of nearly 2,000,000, actually prefer the American root to the Manchurian, because it is much milder and they can afford to buy more of it.

Owing to the double administration of the Government customs, and the lack of tabulated data on either imports or exports in the native branch of the customs, it is very difficult to ascertain how much ginseng really is imported into China and whence it comes.

All Chinese are not alike, and what may please one family or one city may be rejected altogether by the people of a neighboring section. As I have already stated, the people of this city and of the neighboring city of Shaohing appear to like American ginseng, and buy it in considerable quantities, whereas the people of Ningpo, according to my informant, do not care for "foreign ginseng" and scarcely buy it at all.

It appears to be a well-established fact that of all varieties of ginseng on the market the wild ginseng from the province of Kirin, in Manchuria, commands the highest price, whether it possesses any superior medicinal qualities over the other varieties or not. Either the root itself is of a superior variety or it is better cared for in the process of digging and curing, so as to present a better appearance when placed in the market. I am reliably informed, however, that the foreign or American ginseng is in most places making a way for itself as the most practical substitute for the more expensive article.

Just so long as the Chinese believe in the mysterious qualities of ginseng just so long will it play an important part in their lives, and just so long will they cling to it as the greatest medicine of earth.

The Department will appreciate the difficulty of obtaining accurate information from the Chinese on such a subject, as it frequently happens that a merchant will handle many articles of merchandise of whose origin he has not the slightest notion. As a rule, therefore, all foreign goods are the same to him, whether they come from America or Africa. The people who buy the ginseng do not know where it comes from. Many of the druggists think that it comes from France because a French importing firm brought it to them. It would pay, in my opinion, to have the roots so labeled or packed as to make its American origin evident at a glance—to have it known whence the ginseng comes, and to build up a trade on that basis.

FREDERICK D. CLOUD, *Vice-Consul in Charge.*

HANGCHAU, CHINA, *March 8, 1905.*

CANADIAN INDUSTRIAL EXCURSION TO ENGLAND.

Under date of April 27, 1905, United States Consul-General W. R. Holloway, Halifax, Nova Scotia, transmits the following article from the Industrial Canadian:

The approaching excursion to Great Britain under the auspices of the Canadian Manufacturers' Association promises to be one of the leading events of the year. Two hundred and forty passengers are already booked, and the party is distinctly representative, as it includes manufacturers from every part of the Dominion. The programme being arranged by the London Chamber of Commerce for their reception

and entertainment in Great Britain is exceedingly attractive, and chambers of commerce in other leading centers are lending their hearty cooperation to make the excursion arrangements a success.

The meeting of Canadian manufacturers with the business men of the mother country will surely be followed by beneficial results. The mission of the excursion party is primarily to bring about closer relations between the business men of Great Britain and Canada, and to encourage in the British people a greater knowledge of and a deeper interest in the industries of the Dominion. Canada is not known in Great Britain as a manufacturing country, and since the motherland is by far our most important export market, it is important that Canadian industries should be brought prominently before the British public. From a closer knowledge of the opportunities and possibilities awaiting enterprise in Canada, an increased flow of capital and emigration will undoubtedly result, and these are the great needs of the Dominion at the present time.

PRICE AND WEIGHT OF BREAD IN ENGLAND.

(From United States Consul Hamm, Hull, England.)

Bread is sold in Hull in loaves of six different sizes. The penny (2-cent) loaf is supposed to weigh 1 pound; the penny half-penny (3-cent) loaf, 1½ pounds; the 2-penny (4-cent) loaf, 2 pounds, and so on up to the 6-penny (12-cent) loaf, which is supposed to weigh 6 pounds. But there is no law compelling loaves to conform to this standard.

A recent attempt of the London county council to standardize the loaf in that city failed, the select committee of the House of Commons, to which the "sale of bread" bill was referred, rejecting it. The London county council sought to have it enacted that all bread, other than fancy bread, should be sold in loaves of 1, 2, or more pounds' weight, and that inspectors should have power to ascertain whether a loaf was under weight, and, if so, to take proceedings. The bill was opposed by the bakers chiefly on the ground that the present law, which requires the loaf to be weighed on the demand of the purchaser, was sufficient, and that the difficulty of turning out loaves of an exact weight would be met by making up from another loaf any deficiency in weight.

According to the statement of one baker, 70 or 80 per cent of the London bakers habitually rob the public by producing short-weight bread. One of the witnesses called before the Commons select committee not only made this admission in giving evidence in support of the London county council "sale of bread" bill, but declared that no practical baker need have any difficulty in turning out without waste a loaf which weighs what it is supposed to weigh.

Under the existing law there is no power to prosecute for short weight, but only for not weighing bread. A case of this kind is not proceeded with, however, unless the bread thus sold had short weight

exceeding an ounce. It used to be the almost universal practice of making up short weight in the shops, but of late years the practice has grown up of simply weighing the bread without making up the shortage.

WALTER C. HAMM, *Consul.*

HULL, ENGLAND, *April 22, 1905.*

ANOTHER ALPINE TUNNEL PROJECT.

(From United States Commercial Agent Harris, Eibenstock, Germany.)

The completion of the Simplon tunnel and the fact that in a few months trains will be running regularly between Brig in Switzerland and Iselle in Italy has aroused new interest in the old project of cutting a tunnel through the Bernese Alps from Frutigen to Raron. Such an enterprise, if carried to a successful termination, would unquestionably be of vast importance to the canton and city of Berne. A glance at any good map of Switzerland will corroborate this statement. In 1897 it was definitely determined to build this railway as soon as the means could be provided. The total cost of the line and tunnel construction was placed approximately at $12,376,000. Experience, however, has shown that the cost of such enterprises is difficult to calculate beforehand with any degree of certainty, and it is not improbable that the total cost would reach the sum of $16,000,000. If the tunnel should pass under the Lötschberg it would be the longest in the world. The following list of tunnels, with their length in miles, speaks for itself: Mont Cenis, 7.9839; Gothard, 9.3106; Simplon, 12.2602; Lötschberg (projected), 13.0736.

ERNEST L. HARRIS, *Commercial Agent.*

EIBENSTOCK, GERMANY, *May 7, 1905.*

WHEAT HARVEST OF NEW SOUTH WALES.

(From United States Consul Goding, Newcastle, New South Wales.)

The statistics of the wheat harvest for the past season have just been made available by the acting statistician. The total yield for the season was 16,463,680 bushels, or an average of 9.3 bushels per acre on the area sown. The bush fires of the early part of the year caused the loss of 300,000 bushels of grain. This year, for the first time, the returns of grain held over from the previous year are shown. At the present time 2,000,000 bushels are held in New South Wales from last year's harvest, so that the total amount of wheat available is about 19,000,000 bushels. Allowing 11,000,000 bushels for home consumption, seed purposes, and for undeveloped grain suit-

able only for feed purposes, there will remain about 8,000,000 bushels for export. Of this quantity 4,252,638 bushels have already been exported this season, exclusive of large quantities which have been taken by Victoria. In analyzing the return it is seen that the best yields were in the New England district, where an average of 14 bushels per acre was secured, and in the Riverina district, where the yield was from 10 to 11 bushels. It is pointed out that the average yield per acre in New South Wales for the last ten years approaches 10 bushels; and, as the past season was a comparatively dry one, a yield of 9.7 bushels is not only satisfactory, but indicates the possibility of remunerative returns for some years. Many farmers in the State are of the opinion that the partial or total losses of crops occurring from time to time arise from causes that are preventable. It is urged that with better farming, which may be expected from closer settlement, there will be a general improvement in the average yield of each district. This, it is urged, will ultimately lead to the wheat production of New South Wales comparing favorably with that of other wheat-growing countries.

F. W. GODING, *Consul.*

NEWCASTLE, NEW SOUTH WALES, *March 31, 1905.*

AMERICAN EMIGRATION TO CANADA.

Under date of May 1, 1905, United States Consul-General W. R. Holloway, Halifax, Nova Scotia, transmits the following from the Labor Gazette:

Heavy arrivals of American immigrants were reported at Winnipeg, about 120 cars of settlers' effects arriving from the United States in the third week of the month alone. The chief inspector of immigration agencies, on returning from a tour of the agencies in the United States, stated that arrangements were about perfected for another extensive movement from the United States to Canada, and that several thousand more settlers would come to the Dominion during the coming season than last year, which fell below 1902–3 by about 6,000. The secretary of the Western Canada Immigration Association says the prospects were for a heavy influx of American settlers, in view more particularly of the construction of the Grand Trunk Pacific and the carrying out of irrigation projects in Alberta.

The total immigration from the United States during the first eight months of the present fiscal year, compared with the corresponding months of 1903–4, shows a decrease of 2,304. Taking into consideration the increase in immigration by ocean ports, a net increase of 5,802 in the total number of immigrants is shown.

NEW ANÆSTHETIC.

(From United States Consul-General Guenther, Frankfort, Germany.)

From a tree called by the natives yohimbehe, which grows in West Africa, an alkaloid called yohimbine has been prepared. It crystallizes in white, silk-like needles, easily soluble in alcohol, ether, and chloroform, but imperfectly in water. Its properties have been carefully investigated with important results. Usually a chlorine salt of yohimbine is employed, which is, however, easily decomposed. Hypodermic injection of yohimbine results in local anæsthesia, lasting almost two hours. It causes insensibility of the cornea and the fascia of the eye when simply dropped upon the parts.

The Italian physician, Doctor Magnani, has now published his experience with yohimbine in ophthalmology, in the Annali di Oftalmologia. According to Doctor Magnani, it first causes an itching pain in the eye, but diminishes the sensibility of the cornea in two minutes, and renders it completely insensible in ten minutes, such insensibility lasting half an hour. Effects on the pupil are imperceptible and the adaptability of the eye is not affected.

After the dropping of the solution a rush of blood to the eye takes place, and from this fact Doctor Magnani thinks that yohimbine may be valuable in chronic diseases of the eye which require an increased supply of blood. He prefers it to tropococaine on account of the longer anæsthesia, and to cocaine because it does not injure the tissues and does not impede healthy nutrition of the cornea; furthermore, it is not poisonous.

According to the Medical News, two American oculists report that they experimented upon themselves with solutions of yohimbine of different strength with favorable results.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *April 26, 1905.*

SPANISH FLOATING COMMERCIAL SCHOOL.

(From United States Consul-General Ridgely, Barcelona, Spain.)

Considerable interest is being evinced here in the establishment of a floating commercial school, which it is proposed to install on board a suitable steamship, to be purchased and specially fitted up for the purpose.

The course of study will be divided into three terms of eight months' duration, during which time the vessel will visit the different countries of Europe, America, Africa, and the East. The moral and physical training of the pupils will receive careful attention, and special facil-

ities will be provided for gymnastic exercises and games, while classes will be held, when possible, on the upper deck. The basis of the class studies will be commercial geography and political economy, but book-keeping, mathematics, mercantile law, customs legislation, international law, civil law, French, German, and English will also be taught. Practical instruction will also be given in physics and chemistry and in any special subjects coming under these heads.

The pupils will also, if they wish, be able to learn navigation from the ship's officers, so that during the second and third terms, when the vessel crosses the ocean, they may have the chance of qualifying for certificates as mates. All the teachers on board the school-ship will be foreigners, of various nationalties, from the most advanced centers of learning.

At the end of three terms each pupil will be required to draw up a commercial report embodying the results of his studies and personal observations during the time he has been on board. The satisfactory compilation of this report will entitle him to a diploma.

No pupils under the age of 15 or over 22 will be taken. The cost of matriculation for each term will be 3,250 pesetas (about $490), everything included.

The ship will further carry a permanent exposition of Spanish products to be exhibited in the different foreign ports of call.

The King has granted a handsome annual subsidy to the enterprise, and Mr. Juan Antonio Guell, of Barcelona, who conceived the idea, and who has devoted the most earnest efforts to its practical realization, feels assured of achieving a notable and useful success. He has been cordially supported by the press and the Government from the beginning.

BENJ. H. RIDGELY, *Consul-General.*

BARCELONA, SPAIN, *April 28, 1905.*

CENTRAL MANAGEMENT FOR GERMAN RAILWAYS.

(From United States Consul Harris, Mannheim, Germany.)

The devising of some method to centralize the management of the State railways so as to secure greater economy and uniformity in operation has received much attention in Germany in the past few months. The question is not a new one, having been for several years under consideration in some form or other.

In 1903 the total extent of German railways was approximately 32,967 miles, of which 30,563 miles, or 92.7 per cent, belonged to the States, and 2,404, or 7.3 per cent, belonged to private companies. The main lines were reckoned to extend 20,453 miles, or 62 per cent, of the

total mileage, and the branch or short lines 12,514 miles, or 38 per cent. With the lines owned by the States may be included those of the Rhine Palatinate, expected soon to pass from private ownership to Bavaria, thus making the total State railways at the close of 1903 approximately 31,051 miles, distributed as follows: Belonging to Prussia and Hesse (operated together since 1900), 20,696; Bavaria, 3,764; Saxony, 1,259; the Empire (Alsace-Lorraine), 1,164; Württemberg, 1,133; Baden, 1,032; Mecklenburg, 679; Oldenburg, 352, and as military roads, 43 miles.

These several groups of railways have been built and operated by departments of the State governments as State enterprises. Each State has largely followed its own notions as to the management of the lines and has come to look upon this function as essential to its industrial and commercial independence. It is sometimes asserted that a section of the constitution of the Empire providing for the operation of the railways as a single network for the general interest of traffic throughout the Empire has been somewhat lost sight of by the several States, to the detriment of the public.

The present method of operation, it is stated, results in the needless hauling of empty cars from place to place, estimated at not far from 2,500,000,000 miles yearly, and the amount of rolling stock in use is thereby greatly increased. Other faults charged are delays in the forwarding of freights, circuitous routes of travel, added expense in the accounting departments of the lines, etc. The diversity of practice in the passenger traffic furnishes one of the chief arguments in favor of a central management and at the same time forms one of the obstacles. Prussia, Hesse, and Saxony, and to some extent Bavaria and Alsace-Lorraine, have in use first, second, third, and fourth class cars, and in Prussia and Saxony especially the four classes are in favor. In Baden and most of South Germany fourth-class cars are not in use and are held in considerable disfavor. Baden has a convenient and very popular form of mileage book in almost universal use in that State, but not in use elsewhere. This book is accepted on express trains without extra charge and reduces the cost of travel below that charged in other parts of the Empire on corresponding trains. Other differences exist in respect to the cost of round-trip tickets and the period for which they remain good, the amount of baggage carried free, etc.

While the freight traffic is recognized as being of the greater economic importance, the management of the passenger traffic has awakened more popular interest. The four classes of cars, the mileage books, low passenger rates, the amount of free baggage to be carried, and the prices of return-trip tickets have all entered into the discussion. Advocates of the four classes of cars point to the statistics of travel to show their popularity. Thus the percentages of the

total number of passengers in each class in 1893 and 1903 were as follows:

Percentage of the number of passengers using first, second, third, and fourth class cars on German railways in 1893 and 1903.

Class.	1893.	1903.
First	4.01	4.07
Second	25.09	21.27
Third	48.82	47.84
Fourth	19.36	24.96
Military	2.72	1.86

The percentages of the total distance traveled in each class differ but little from those last given.

Percentage of distance traveled by passengers on first, second, third, and fourth class cars on German railways in 1893 and 1903.

Class.	1893.	1903.
First	1.51	1.46
Second	15.02	12.52
Third	49.30	46.79
Fourth	28.88	34.40
Military	5.28	4.83

From these tables it will be seen that in 1903 the number of passengers who traveled third and fourth class in Germany was nearly 73 per cent, against about 68 per cent in 1893; and that of every 100 miles traveled in 1903, 81 miles were by passengers who traveled third and fourth class, against 78 miles by the same classes in 1893.

Just what plan of central management will be finally adopted is uncertain. The railway system of the United States is frequently referred to as embodying the general features required in Germany. It is quite generally conceded that whatever plan is adopted must not include the surrender of the ownership of the lines by the several States, nor prevent each State from carrying out its general policy in reference to them. It must not, it is stated, be a plan of management in which any one State shall have undue influence. Common ownership of all rolling stock, car shops, and repair shops, more uniformity in the construction of new stock, the adoption of fourth-class cars throughout the Empire, the abandonment of the mileage book on the part of Baden, and a uniform passenger rate on the same grade of trains and cars throughout the Empire are among the concessions that seem to be expected to be made.

State ownership of railways has come about in Germany with comparative ease, and the lines have been vastly extended and improved. Traffic upon them has grown by leaps and bounds. The operating of these great properties so as to preserve their State character and at

the same time to give them the greatest efficiency as national highways of commerce is the question before the German ministers of railways in the several States. Its solution must eventually come and will form an interesting chapter in the industrial history of the Empire.

H. W. HARRIS, *Consul.*

MANNHEIM, GERMANY, *May 2, 1905.*

GERMAN FEAR OF PUBLICITY.

(From United States Consul-General Guenther, Frankfort, Germany.)

The chamber of commerce of Sorau, Prussia, recently addressed a communication to the manufacturers and selling agents of that district in which it warns them against giving information of the condition of the markets and of manufacturing interests in their reports to the press, etc. The circular letter says in part:

The reports in our technical and trade papers are most assiduously studied abroad, and by representatives of our foreign competitors residing in Germany, especially by the consuls of the United States.

The articles published in our journals and trade papers should not state selling prices of our manufactured articles, how their cost compares with that of similar goods produced in competing countries, of what ingredients the articles are composed, what the tariff rates are, etc. Such detailed descriptions, which often expose even the secrets of manufacturing, form an excellent weapon in the hands of our competitors and serve to injure German business interests. All public reports should refrain from giving details. The chamber is careful not to mention such in its annual reports. No complaints about bad business should be published, as this is hurtful to our export trade.

We therefore beg of you to promote German business interests by (1) spreading this warning; (2) abstaining from giving publicity to any details which should only be confidentially communicated to the proper authorities; (3) urging this upon your employees who may have intercourse with newspapers, and (4) keeping your factories shut to foreigners or strangers.

How do these German chambers of commerce, which represent the manufacturing and commercial elements of their country, reconcile this illiberal spirit with the fact that Germany sends individuals, official delegates, and even ministers of state to the United States to inspect our factories, trade schools, public institutions, etc., for the purpose of obtaining knowledge and benefiting German interests?

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *May 20, 1905.*

CANADIAN RAILWAYS.

(From United States Consul Smith, Victoria, British Columbia.)

The official report of the minister of railways of Canada for 1904 shows that the number of steam railways in actual operation in Canada at the close of the fiscal year, June 30, 1904, was 191, including the two government roads, the Intercolonial and the Prince Edward Island railways. As some of the roads are amalgamated or leased the total number of controlling companies was 85, not including the government railways. The number of companies absorbed by amalgamation was 54 and the number of leased lines was 38. The number of miles of completed railway was 19,611, an increase of 534 miles, besides 3,327 miles of sidings. The number of miles laid with steel rails was 19,545, of which 763 miles were double track. The number of miles in operation was 19,431. The paid-up capital amounted to $1,186,546,918, an increase of $39,996,149 over the previous year. The gross earnings of the year amounted to $100,219,436, an increase of $4,154,909, and the working expenses aggregated $74,563,162, an increase of $7,081,638; leaving the net earnings $25,656,274, a decrease of $2,926,729. The number of passengers carried was 23,640,765, an increase of 92,023.

The great interest in railroads now being taken throughout Canada makes these statistics of value, especially in British Columbia, where all parties are anxiously awaiting further railway development.

Louis W. Hill, vice-president of the Great Northern Company, officially announces that without waiting for a subsidy, the extension of the road from the Kootenay to the coast will proceed during the present year, completing a line of the Great Northern through British Columbia to tide water, forming a competitive line with the Canadian Pacific in its own territory. In the district, known as the Similkameen, through which the road will pass, are some of the richest mining and agricultural districts of British Columbia. Contracts have already been let for a part of the road from some point on the Republic line of the system to Princeton, British Columbia, a distance of 86 miles. The work will commence at Oroville, in the Okanagan country, and construction will proceed both ways from Oroville northwest to Princeton and southeast to the connecting point on the Republic line.

The following statement of the length of the railways of British Columbia and the capital invested in them is made up from the Dominion minister's report and other reliable sources. The figures given as "Capital invested" are not all official, but are believed to be fairly accurate. As "Capital invested" is given the cost of the railway lines completed and equipped. The total number of miles of railway in British Columbia is 1,712.47 and the capital invested $73,381,903.

British Columbia railway lines, June 30, 1904.

Lines.	Miles.	Capital invested.
Laggan to Vancouver	524.8	.....
New Westminster branch	8.2	.....
Mission branch	10	.....
Arrow Lake	27.7	.....
Vancouver to Coal Harbor	1.2	.....
	571.9	$28,600,000
Vancouver to Steveston	17.2	305,000
Kaslo and Arrowhead	33.4	805,000
Columbia and Kootenay	60.5	1,391,300
Columbia and Western	171.1	6,691,000
Shuswap and Okanagan	50.8	2,052,700
Nakusp and Slocan	40.5	1,934,389
British Columbia Southern	241.7	6,840,650
Esquimalt and Nanaimo	78	3,250,000
Great Northern:		
Kaslo and Slocan	33.3	1,934,389
Nelson and Fort Shepherd	55.42	2,908,000
New Westminster Southern	24.10	592,000
Victoria and Sidney	16.26	410,000
Victoria Terminal	18.40	365,823
V. V. & E	16.50	900,378
Bedlington and Nelson	19.50	1,720,000
Vancouver, Western and Yukon	13.89	635,688
Red Mountain	9.59	407,600
Crow's Nest Southern	43.38	2,143,426
British Yukon	90.32	2,934,119
Kettle River Valley	8	200,000
Logging lines:		
Chemainus	20	300,000
Lenora and Mount Sicker	12	102,221
Wellington Colliery	10.75	250,000
Morrissey, Fernie and M	4.73	305,741
Electric Tram, British Columbia Electric Company	48.5	5,117,479
Nelson	3	285,000
Total	1,712.47	73,381,903

ABRAHAM E. SMITH, *Consul.*

VICTORIA, BRITISH COLUMBIA, *May 1, 1905.*

COMPLAINTS ABOUT AMERICAN CORN.

Under date of May 14, 1905, United States Consul-General Richard Guenther, Frankfort, Germany, transmits the following translation of an article which appeared in the Frankfort Gazette of the same date:

In spite of the numerous complaints which for years past have been made against the sad condition in which Indian corn from the United States arrives in European ports, no improvement has taken place. As the new crop was said to be of excellent quality recipients of the corn expected it would turn out better, but experience has already shown that this hope is fallacious. Several ports of entry have attempted to have these abuses stopped, but their efforts have been unavailing.

Recently the chamber of commerce of Crefeld has taken hold of the question and has urgently requested the German Union of Chambers of Commerce to take action at the convention of the union which is to be held at Berlin May 23. As a preliminary condition to success it is requisite to get all the German, Dutch, and British grain ports and produce exchanges to act in unison.

In a communication dated May 18 Consul-General Guenther further reports that the North German Lloyd Steamship Company states to the press that in order to obviate the bad condition of American corn upon its arrival in port it has caused experiments to be made. These have led to the adoption of the Clayton apparatus, which produces sulphurous acid gas to disinfect and sterilize the grain, and also prevent danger by fire. The experiments upon various small lots of corn showed that the flavor and quality of the grain are in no wise injuriously affected. The Lloyd's steamship *Norderney* has been equipped with a Clayton apparatus and if found to work as expected the other steamships of the company's La Plata line will be provided with similar appliances.

ENGLISH WOOL TRADE.

Under date of April 28, 1905, United States Consul Walter C. Hamm, Hull, England, transmits the following article from the Yorkshire Post of April 27 relative to the woolen trade of Leeds and Bradford, and the fabrics likely to be fashionable in England the coming season:

That wool manufacturers in the heavy woolen district and up the Colne Valley are busy shows the great call for low fancy tweeds. No one can look through the patterns of any wholesale clothing house in Leeds without being struck with the large choice in tweeds, in color, design, and price. Browns are reckoned among the latest shades and styles, but we have not much faith in them, brown never having appealed to the general taste for long, and never having enjoyed that universal popularity which gray shades have. However, it is well to try to break the established monotony of gray shades. There is a big demand for goods with designed effects, namely, stripes and checks. These can not be produced in worsteds at popular prices, and this to some extent explains why fancy worsteds have of late years been relegated to a back seat. Woolen mixture tweeds can be produced nearly as smart in appearance and at considerably less per yard. In our opinion these worsted cloths can not compete with woolens, while their "papery" handle is not conducive to a large sale. If worsteds are "backed" to give them weight, it means increased cost, this also being a point favoring the sale of woolen tweeds. The fact is very significant and has been frequently remarked upon by close observers of textile conditions in this neighborhood, that outside woolen districts have fared considerably better the last three years than the worsted trade of Bradford has done, fashions and popular favor running on woolens both for men's and for women's wear. Some very sightly cloths indeed in tweeds can be had for from 30 to 48 cents per yard, 18 to 20 ounces, six-quarter, and these prices can not be touched by worsted fabrics. Stripes used to be worn for nothing but trousers, but a new order of things prevails to-day, suits being made all one shade, and stripes are as popular for coats as for trousers.

Another point worth noticing is that tweeds are most popular in the lower qualities, checks and stripes being almost played out in the medium and better class trade. Those intimately connected with the

Huddersfield and Colne Valley trades know that the principal output to-day consists of six-quarter tweeds from 30 to 42 cents per yard wholesale. As it is, the appearance of the mills in that locality indicates that although there is not now a rush on Japanese war orders, still there is plenty of work to be done, and although factories can now run a good hour overtime without lighting up, still many a mill is running from 6 a. m. to 8 and 9 p. m. If woolen manufacturers in this district were not handicapped with heavy foreign tariffs it is safe to assert that no single manufacturer producing fashionable goods would be slack, and a recent pronouncement from a large New York importer showed that but for the tariff he would have ordered straight away several thousands of pieces of the tweeds shown him. One can not help noticing the large employment of pure cotton yarns in conjunction with woolen in the production of these so-called tweeds, and one only wishes that a little more of the pure wool was used in conjunction with the heavy weights of mungo and cotton. Of course, it is all a question of price per yard, and manufacturers would be only too glad to produce better quality fabrics if they could sell them. But it seems a pity that everything really good should be sacrificed for cheapness, and if the retailer would try to push a little more good, medium, and better class fabrics, more satisfaction would result.

Already the aristocracy of the country, who undoubtedly were the first to take to wearing tweeds, are now discarding them for the "everlasting" indigo blue serge. The testimony of local manufacturers and woolen merchants on this head is that already this year more solid blue worsted serges have been sold than for three years back. Any one connected with the Bradford trade knows that blue serges have been despised entirely, that manufacturers have not produced a tenth they did, while general observance has shown that these goods have been conspicuous by their absence in the street. Popular taste is undoubtedly swinging round to these fabrics once more and this is good news to Bradford. It explains largely the firmer feeling and better call there is for fine crossbred and merino yarns, there being more consumption of these than for some time back. Bradford trade has never been slack when worsted coatings and serges were popular, and fashions are returning to finer materials. Some very good serges are on the market at $1.20 to $1.80 per yard, 22 to 24 ounces, 55 inches wide. If this class of trade returns in volume equal to what obtained in 1900 and earlier, values for medium and fine crossbred and merino wools will be maintained. Nothing has been brought out yet to supersede both in appearance and wear a good indigo serge. Apart from church purposes, it is fit both for Sunday and market wear, and this will undoubtedly impress itself upon those who set fashions.

It is to be hoped that manufacturers in their efforts to produce good worsteds at a reasonable price will not weight their goods with chemicals and other objectionable matters. The practice is bad, looked at from any standpoint; we see no necessity to resort to "filling" to make an 18-ounce cloth weigh 20 ounces. Worsted yarns are not so cheap as they are sometimes; still, they are at a "usable" price.

TECHNICAL SCHOOL FOR MILLERS.

(From United States Consul Brittain, Kehl, Germany.)

There is a technical school for millers in Dippoldiswalde, Germany. It was founded as a private school in 1881 and in 1890 was taken over by the municipality. A few years ago it was inspected by a committee of the German Millers' Association with a view to establishing a similar school in Magdeburg, but the committee was so highly impressed by the work done at Dippoldiswalde that the association determined to patronize it.

The aim of the school is thorough, theoretical, practical, and commercial instruction of all persons connected with the milling business, from the manager to the office clerk. The course of instruction is arranged for a period of two to three terms, one year, or one year and six months, according to the degree of instruction desired. In order to enter, pupils must be at least 16 years of age and have passed through the elementary schools. A period of at least one year's practical work in a mill or in mill building is also necessary. New pupils who wish to begin the second term are required to pass an examination in algebra, geometry, engineering, chemistry, physics, drawing, and bookkeeping, to the extent to which these subjects are taught the first year. In addition to these subjects, the following are taught in the school: Trigonometry, hydraulics, steam, electrotechnics, baking, mill construction, commercial correspondence, commercial law, and political economy.

The yearly fees charged are 100 marks ($23.80) to natives of Saxony, 150 marks ($35.70) to other Germans, and 200 marks ($47.60) to foreigners. An additional charge of 30 marks ($7.14) is made for materials, and the total expenses for a term of five months are estimated to be 500 marks ($119).

The staff consists of eight professors and teachers, of whom four are engineers. One of the leading features is an instruction mill, provided with all the latest milling machinery. The school is well equipped with models and milling machinery of the latest designs. The examinations are held before a committee from the German Millers' Association, who sign the certificates issued to the successful candidates.

JOSEPH I. BRITTAIN, *Consul.*

KEHL, GERMANY, *April 20, 1905.*

BELGIAN LACE.

(From United States Consul McNally, Liege, Belgium.)

Belgium, in addition to its specialty, Brussels lace, manufactures laces for the world at large to suit the world's demands. The well-known Valenciennes lace, which is sold in France, is in great part manufactured in eastern Flanders. The Lille lace, the Parisian lace (point de Paris), is nearly all made by Belgian fingers. The principal center of the manufacture of Chantilly lace is at Gremont. The embroidery on the tulle of Lunéville is manufactured chiefly at Lierre. Even the Venetian lace, commonly known as point de Venise, which forms a large part of the stock of the rich shops on the place St. Marc, Venice, is made by the workingwomen of Alost and Wetteren. Belgium includes among her other lace manufactures, at moderate prices, point de Milan, Irish lace, dentelle au lacet de Luxeuil, guipures du Puy, etc. Belgium brings the foreign lace trade of all the noted centers to herself and supplies customers with what they desire regardless of the name by which the goods are designated. It is said that Belgian lace meets with favor because of its intricacy, high quality, and low cost.

Heretofore the lace dealer was usually a small shopkeeper or some lace maker more fortunate than her fellow workingwomen, who, after gaining a competence, set up a factory of her own. The skill employed is the only valuable asset in this industry, and this skill was formerly mortgaged to cunning persons who systematically advanced money, the consideration being the exclusive right to the output of those to whom loans were made. The matter of fair compensation was not considered. This has, happily, been done away with, for the Government of Belgium, always eager to protect its laboring classes, has passed laws prohibiting the truck system or any other imposition upon the lace makers.

JAMES C. MCNALLY, *Consul.*

LIEGE, BELGIUM, *May 3, 1905.*

SUBSIDIZED SHIPPING IN CHINESE TRADE.

(From United States Consul Anderson, Amoy, China.)

In its edition of March 20, 1905, the China Mail, of Hongkong, says:

We hear on reliable authority that the Japanese Government is subsidizing Japanese steamers plying on the China coast. If reports are true British steamers will have a hard struggle and will eventually disappear altogether unless the British Government does something of the same kind. The following figures have been given us as being the amounts paid on runs indicated, in Mexican silver: Hongkong to Shanghai, $141,700; Hongkong to Tamsui, $108,700; Hongkong to

Anping, $40,700; Fuchau to Tamsui, $41,700; coasting around Formosa, $122,300; Taku to Kobe, $27,200; Taku to Yokohama, $115,300; Kilung to Kobe, $120,100; total, $718,200.

This amounts to about $331,000 gold. That the policy has been successful is amply demonstrated in the increase of Japanese shipping at Amoy, the center of the Formosa-Chinese trade. In 1901, out of a total of 1,700 steamers in port, the British had 1,090, the Japanese 434, the Chinese 50, and the Germans 34. In 1902, out of a total of 1,742 steamers in and out of the port, the British had 1,047, the Japanese 429, the Chinese 134, and the Germans 64. In 1903, out of a total of 1,812 steamers, the British had 1,084, the Japanese 452, the Chinese 108, and the Germans 80, the British having about five-ninths and the Japanese about two-ninths of the whole. Last year the war between Japan and Russia naturally scattered the Japanese fleet for the time being, but the Japanese chartered vessels to hold their business. Out of a total of 1,754 vessels in 1904 the British had 1,076, the Chinese 113, the Japanese 112, and the Germans 280. The transfer of the business from Japanese to German protection for the time being is indicated by these figures. It is evident, however, that German shipping in this part of the world is growing at a rapid rate, and the reasons for this growth are easily understood in connection with the German ship subsidy plan. That Japan is really in command of all the carrying trade it had before the war is perhaps too much to say, but it is at least certain that the break in the Japanese shipping business caused by the war will be only temporary. The indications are that the present year will show practically the old figures in spite of more or less demand for transport service in connection with the war.

GEORGE E. ANDERSON, *Consul.*

AMOY, CHINA, *March 27, 1905.*

DESIGNS AND INDUSTRIAL MODELS IN FRANCE.

(From United States Consul-General Gowdy, Paris, France.)

By the terms of the law of March 18, 1806, articles 14 to 19, any manufacturer who desires to claim ownership of a design must deposit a specimen thereof, under sealed cover, in the archives of the "conseil de prud'hommes." As this law did not provide for factories situated at a place remote from a conseil de prud'hommes, a decree of August 17, 1825, directed that the deposit should be made in the registry of the tribunal of commerce where the factory is situated. In accordance with article 18, the depositor must declare whether he intends to reserve the ownership of the design for three or five years, or perpetually, and the small fee payable when the deposit is made varies

according to his declaration. Infringements may be prosecuted either before the civil or criminal courts (articles 425 to 429 of the penal code).

Other enactments dealing with the subject are the law of February 9, 1895, on artistic frauds, and the law of July 19, 1793, on the reproduction of pictures and designs.

For the protection of designs of citizens of the United States in France, one of two conditions is required: (*a*) a domicile in France, or (*b*) reciprocity in favor of French designs, as stated in the law of May, 1855, on industrial property, and law of November 26, 1873, as to trade-marks. This reciprocity has existed in the United States for trade-marks since the convention of July 28, 1869, and it now exists specifically for designs under the Berne convention of 1883, to which the United States gave adhesion March 18, 1887.

JOHN K. GOWDY, *Consul-General.*

PARIS, FRANCE, *May 2, 1905.*

PACKING CEREAL FOODS FOR TROPICAL MARKETS.

(*From United States Commercial Agent Snyder, Port Antonio, Jamaica.*)

Many kinds of cereals, partially cooked or otherwise prepared, imported into Jamaica from the United States have found a fairly good demand among all classes, but they have often been a source of disappointment and loss, not only to the individual consumer but to the dealers, who in some instances have lost several cases of recently imported articles through deterioration. This accounts, in the main, for the short-lived popularity of most brands of cereals imported in cardboard boxes. The result is that the importers are ever anxious to exchange a brand they have dealt in for one newly introduced, in the hope that the new article will be less susceptible to humidity and a better keeper.

From close observation of climatic influences, after having obtained the views of the local merchants, I would recommend that these and all other commodities intended for use in the Tropics and liable to be affected by moisture, be exported in packages lined with paraffin or moisture-proof paper. It is the unanimous opinion here that they would then keep in good condition for a longer time than they do at present. This method of packing for tropical countries is used in England, with the result that fewer complaints are received with regard to goods from that market.

NICHOLAS R. SNYDER, *Commercial Agent.*

PORT ANTONIO, JAMAICA, *May 11, 1905.*

NEW INDUSTRIES IN CANADA.

(From United States Consul-General Holloway, Halifax, Nova Scotia.)

Plans are under way for the development of a great amount of power at Grand Falls, New Brunswick, by a company which is prepared to expend between $3,000,000 and $4,000,000. It is proposed to manufacture ferro-manganese, pulp, and paper, to erect sawmills and operate electric railroads, and to transmit power to St. John to be utilized for lighting and manufacturing purposes. American capitalists, including Mr. Barton E. King, of New York, are behind the enterprise.

The plant of the Fowlers Canadian Company (Limited), at Hamilton, a branch of the Swift Company, of Chicago, will be enlarged this spring at a cost of between $50,000 and $70,000, Provision will be made for the slaughtering of 6,000 hogs a week, besides additions to the capacity of the sheep and cattle slaughtering houses. As a natural consequence, the Stock Yards Company is preparing to enlarge its premises in order to accommodate the increased number of sheep and cattle which it will be called upon to handle.

Messrs. F. W. Bird & Sons Company, of East Walpole, Mass., has purchased a 9-acre site in Hamilton, Ontario, upon which it will erect a $20,000 factory. The company will manufacture principally roofing paper, and will provide employment for 200 hands.

A new record for the Algoma Steel Rail Mill at the Canadian Sault was made early in March, when rails were turned out at the rate of 742 tons per day of twenty-four hours. The capacity originally provided for was only 500 tons per day. The company has recently received $60,000 in bounties from the Dominion government, and is now at work filling a 25,000-ton contract for the Canadian Pacific Company.

General attention is being directed to the excellent oil wells which are being opened in the Leamington district. A company of Detroit capitalists has been formed, known as the Union Gas and Oil Company of Ontario, capital $500,000, which will continue drilling for wells in that vicinity. Experienced men are quoted as saying that the field offers splendid possibilities.

W. R. HOLLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *April 25, 1905.*

ETHIOPIAN RAILWAY.

Under date of April 11, 1905, United States Consul Albert W. Swalm, of Southampton, England, transmits the following article from the London Morning Post of April 1 relative to the proposed internationalization of the Ethiopian Railway:

A new, but it can not be said an altogether unexpected, factor has been introduced into the discussion of the proposal for the internation-

alization of the Ethiopian Railway. The Kölnische Zeitung has published a telegram from London which states that, "according to a private telegram from Adis Abeba, the Emperor Menelik has declared that he will only agree to the construction of the railway in Abyssinia on an international basis, and will ask the ministers accredited to him by England, France, and Italy to submit to him such a plan without delay. Otherwise he intends to ask Germany to intervene so as to bring about this result." The source of this information is not indicated, but there is at least nothing improbable in the suggestion that the Emperor Menelik is contemplating an appeal to Germany to bring about the more speedy realization of his wishes as to the construction of the remaining section of the railway which will place Abyssinia in direct communication with the sea.

There can be no doubt as to what are the wishes of the Emperor on this matter. M. Hughes Le Roux, a Frenchman who returned from Abyssinia a few weeks ago, after a considerable stay at Adis Abeba, where he had frequent conferences with the Emperor on the subject of the railway, took an early opportunity after his return to explain the situation to some of the most influential French chambers of commerce, and left no doubt as to what was the Emperor's attitude. Many of the chambers of commerce have adopted and forwarded to the French Government resolutions in favor of the internationalization of the railway; but simultaneously there has been a strong counter movement on the part of the French Colonial Party to induce the Government to maintain the demand that the railway shall retain its exclusively French character. There are various indications that M. Rouvier and his colleagues are considering the possibility of retaining the control of the Ethiopian Railway in French hands, and this aspect of the situation is undoubtedly perfectly well known to the Emperor Menelik, who is kept well informed on all that passes in Europe affecting the interests of his country.

The threat to appeal to Germany can not, therefore, be ignored, particularly at the present moment, when an important German mission, under the leadership of Dr. Fritz Rosen, is still in Abyssinia, after concluding a commercial treaty with the Emperor Menelik. Telegrams from Adis Abeba have reported that Doctor Rosen and the other members of the mission strongly advocated increased facilities of transport, and favored the extension of the railway to Adis Abeba under international auspices. This is evidently the policy which would best serve German interests, which at present are purely commercial, and it is equally clearly the course dictated by Abyssinian interests. The situation is precisely one of those which German diplomacy knows so well how to turn to account. French influence is at present at a somewhat low level at Adis Abeba, while that of Great Britain, thanks to the able and straightforward diplomacy of Sir John Harrington, is in the ascendant, and it is only by enlisting British influence in its favor that the French Government can hope to induce the Abyssinian sovereign to adopt a policy which is opposed alike to his own wishes and to the interests of his country. The assumption that, under the joint pressure of Great Britain and France, Menelik would consent to the construction of the section of the line from Harar to Adis Abeba by the French company, with capital provided by the French Government—for the French company can not itself raise the necessary capital—and to the whole of the line from Jibuti to the Abyssinian capital being controlled by the French company, which is tied hand and foot to the French

Government, was a dangerous one to make, even before any indication had been given that Menelik was disposed to rely on German support. It is not, of course, said that this support would be given; but not much doubt need be entertained on that score, and the three powers directly interested in Abyssinia will do well to take due note of the clear hint contained in the communication addressed to the Kölnische Zeitung.

MONETARY CONDITIONS IN CHINA.

(From United States Consul Anderson, Amoy, China.)

The prospect of a reform or rather revolution of the money system of China is not very bright, in spite of the promises to that end which have been made by those responsible for the present situation. The foreign traders who have to do with international exchange particularly seem discouraged. The fluctuations in exchange based on silver have been unusually violent in the past two months; and where goods from abroad have been slow in arriving there has been direct and material loss. At the annual general meeting of the chamber of commerce in Shanghai a few days ago some of the most influential business men present were decidedly pointed in their remarks about the extreme inertness of those who are failing to effect the change which the Chinese Government has promised to make. They merely reflected the sentiments of all foreigners in China who are not directly benefited by present conditions in banking and money changing. This element is powerful, and in some respects it is very largely responsible for the failure of the Chinese Government to keep its treaty obligations and establish a uniform monetary system.

There are a number of influential elements preventing the change which nations doing business in China have asked. The extreme jealousy of provincial and other officials as regards their position and relation to the Government and each other, and the lack of a central authority with enough initiative and power to effect the reform, contribute to the present status.

The establishment of provincial mints for the coinage of copper "cents," or 10-cash pieces, will be found a strong obstacle in the way of a change. The provincial officials concerned are making a profit of at least 100 per cent out of the money they are coining, and while the coins are in a measure an innovation they fit in well with the old Chinese cash money. They are in fact preventing any demand from the Chinese people for a change in the money system generally. The coinage of silver at the present time is rather small and the indications are that it will soon be smaller.

Recently an order from Peking instructed provincial officials to establish no more mints, and where authority to establish mints had been given but the construction not commenced the enterprises were

ordered suspended, the explanation being that it was proposed to establish Imperial mints at Peking to which machinery ordered for the provincial mints was to be shipped, and that the coinage of uniform money was to be inaugurated. It is hoped by those concerned in the reform that this beginning will really mark a change for the better, but it is very doubtful if this will be the case since the provincial mints already established are continuing to run night and day in the manufacture of coins in present use, and so long as these coins are made and circulated there is little hope for uniformity.

Until the high officials and the banking interests are brought to favor a change, or are overruled by the business community generally, there will be no change. China is in such a state financially that no new monetary system can be established without the active efforts and cooperation of these men and concerns. It is safe to say that Americans interested in Chinese trade can count upon a continuation of present exchange conditions indefinitely. Eventually reform will necessarily come, but it will be heralded so far ahead that no one will be without due warning. The gradual displacement of the innumerable local taels by "Mexican" or "Spanish" dollars is about the only thing that savors of a change at present. This change is certainly being effected.

One serious phase of the present situation is that the large amount of copper coinage now being turned out is in fact token money that has not the intrinsic foundation of the old copper cash system. The copper coinage now being made is really worth less than half what it purports to be. So long as it is accepted at full value by the Chinese people there will be no trouble, and the present coinage may really be said to be an improvement over the old system. But in a nation where there is a discount between the several provinces or states on silver money coined by each, there is very strong probability that when the present demand for additional circulating medium is met to a reasonable extent there will arise a question with the mass of the people as to the value of these new copper coins, and with such a questioning there will come a financial cataclysm. In China the money of the people is still brass and copper, and while gold and silver may continue to control the price paid for its exports, copper and brass will continue to govern the price of its production. Trouble over this new copper coinage would set back monetary reform in the Empire at least a decade. The people would be fearful of new money, and with the mass of the Chinese people against a reform the reform will not be realized, governmental promises notwithstanding. Both upon and beneath the surface of affairs the prospect of monetary reform is not encouraging.

GEORGE E. ANDERSON, *Consul.*

AMOY, CHINA, *April 10, 1905.*

GERMAN CREDIT SYSTEM AND EXPORT TRADE.

(From United States Commercial Agent Harris, Eibenstock, Germany.)

It is not to be denied that German foreign commerce owes a great deal to the very liberal credit system which has been in use during the past twenty years. In many cases this credit system has been the ruin of English houses in the countries of South and Central America and Asia. American merchants and manufacturers also find the three to four months' credit system the most formidable weapon of their German rivals in every part of the world. In certain lines of goods credits are often granted for a longer period of time. An attractive credit is often a more powerful aid in securing trade than the finest and cheapest line of goods for which cash is demanded. Yet in the textile industry of Chemnitz, Eibenstock, and Annaberg—cities that manufacture large quantities of hosiery, gloves, and dress trimmings for the foreign market—there are indications that the long credits which are conceded to the trade of some countries, especially in the Orient, are not returning good results.

In former years German merchants and manufacturers demanded cash payments upon the delivery of the goods f. o. b. Hamburg or Bremen. At that time, however, the purchasers in most foreign countries were old solvent houses of long standing. Since then so many new firms have started in business and opened up connections with so many new manufacturing establishments in Germany that the old firms here, as well as abroad, have been compelled to depart from their former methods in order to be able to compete and exist. I am informed on good authority that thirty-five years ago there were about twenty firms in Eibenstock which manufactured dress trimmings for home and foreign markets. Of this number only about eight are still in existence. The business done by these firms thirty-five years ago was double what it is to-day, and for the most part they received cash payments for the goods delivered. To-day there are not less than forty firms manufacturing the same line of merchandise. When we take into consideration the fact that the population of Eibenstock has grown only some two or three thousand in those thirty-five years, it will be seen that the competition of the increased number of firms must necessarily bring about new conditions governing sale and payment. Similar conditions exist in Annaberg. In Chemnitz it is somewhat different, because that city's population grows at the rate of about one thousand per month, thus keeping pace with any increase in the number of factories which is likely to take place.

It is still the practice of large wholesale establishments in nearly every country to pay their invoices within eight days. A still greater number of firms send checks punctually at the end of thirty days. It

is the experience of most German manufacturers, however, that, as a rule, the majority of foreign buyers promise to pay within thirty days, but regularly fail to do so. The thirty days lengthen into four months, and very often even a longer period. The large German export firms which have been in business for many years are very cautious in giving credit to new buyers, but this prudence exerts but little influence upon the situation. There are always small firms and firms just starting in business which are only too willing to take risks and give practically everything on credit.

Another business practice somewhat in vogue in the textile industries of Saxony which has proved to be injurious to the trade is that of buyers paying cash for 50 or 75 per cent of the merchandise at the time of purchase and promising to pay the other 50 or 25 per cent upon receipt of the merchandise. The remainder is often unpaid for an indefinite time. In this way, it is said, many manufacturers in Chemnitz have lost considerable sums of money.

During the past ten years German manufacturers of hosiery and dress trimmings have been making strenuous efforts to secure permanent markets in the Orient. Long credits are given to firms in Turkey and Egypt. Here, as in other countries, experience has shown that the credit system helps to secure markets, but the partial or total failure of the purchaser to meet his obligations more than offsets any good results achieved by it. In Turkey, Greece, and the Balkan States it is practically impossible for a German merchant to take legal proceedings against a tardy debtor with any prospect of success, while, on the other hand, any Oriental is in a position to use the law in Germany for collecting damages from a solvent firm for the nondelivery of merchandise for which he has contracted or paid.

ERNEST L. HARRIS, *Commercial Agent.*

EIBENSTOCK, GERMANY, *May 11, 1905.*

FOREIGN TRADE NOTES.

(From United States Consul-General Guenther, Frankfort, Germany.)

Abyssinia.—A French company projects the building of a railroad from the port of Jibuti to Adis Abeba, the capital of Abyssinia. This project has aroused German exporting circles, who fear that France will eventually assume a protectorate over Menelik's Empire to the exclusion of the trade interests of other nations. German trade papers raise the cry of the "Open door" and say that Abyssinia must be kept free for the equal competition of all nations, and that France must not be allowed to establish a monopoly in that promising field.

France.—The exports from France for the first quarter of 1905 are valued at $213,838,600 and the imports at $238,937,800. These figures

are lower by $2,274,500 and $4,018,400, respectively, than those for the corresponding quarter of 1904.

Italy.—According to official statistics, 223,102 Italians emigrated to transoceanic countries in 1904. Of these 150,119 went to the United States, 59,964 to the La Plata countries, 10,957 to Brazil, 904 to Central America, and 797 to Africa.

The British consul-general at Genoa advocates the establishing of a British chamber of commerce at that port for the purpose of strengthening English trade relations with Italy and to successfully compete with other countries. He claims that such an institution would be very useful in selecting agents for British export firms and safeguarding them against swindling agents and firms in Italy.

Switzerland.—Switzerland's exports of machinery and implements in 1904 are valued at about $9,500,000. Electrical machinery and machines used for weaving, knitting, and embroidering were the principal items. As this little country has no iron or coal, but must import these heavy materials by railroads, the exportation of machinery speaks well for its industrial skill.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *May 4, 1905.*

CANADIAN WIRELESS TELEGRAPH STATIONS.

(From United States Consul-General Holloway, Halifax, Nova Scotia.)

The government steamer which left Friday evening for Sable Island with a part of the materials for the Marconi station to be erected there, and several officials of the Marconi company, who went to select a site for the wireless station, returned yesterday. The officers selected a site a half mile east of the main station. Marconi wireless telegraph news will soon be a reality in the newspapers of all marine ports, and much of it will be transmitted from Sable Island—"the graveyard of the Atlantic"—which now gives up its news only when a government steamer calls there.

A wireless station is now being established at Camperdown for the use of the marine and fisheries department. A high wireless signal staff will be erected, from which will hang four wires, called "aerials," at the different points of the compass, leading from the top of the staff to points 250 feet away, and there fastened to posts with glass insulators. It is expected that the building at Camperdown will be finished by May 24, and then the construction staff will proceed to Sable Island to erect the station there, which will communicate with Camperdown, and which, it is expected, can be erected in three weeks. The gentlemen who will have charge of the stations are both graduates of British scientific institutes and experienced in Marconi work. Each will have assistants, so that the stations will be constantly ready for transmitting.

Passing vessels fitted with wireless apparatus will send their messages in the direction of the island, and the receiver there will at once write each one out and hand it across the table to the sender, who operates an instrument which sends the dots and dashes for the different letters up the copper wires leading to the arm of the staff pointing toward Camperdown, and they are sent off into the atmosphere in waves, traveling in all directions, but particularly toward Camperdown, 160 miles away. There the message will be taken by the wires; it can not ground, as is the inclination, because of the glass insulation, but must pass over the wire into the operating room. It is expected that telegraph companies having offices in Halifax will extend their wires to the Camperdown station, and then newspapers can give news by Marconi wireless telegraph.

Vessels having Marconi apparatus on board, when as far as 150 or 200 miles south, southeast, or southwest of Sable Island, can make the fact known to the island station and have the news sent over the world. The Marconi officials claim that when the stations are in running order a message can be sent to Camperdown, thence to Halifax, and thence by cable to London in ten seconds. In some seasons there may be from twenty to fifty different vessels reporting daily to Sable Island, and when the system is in operation and well known in marine circles the captains, officers, and many passengers of the big ships will have messages to send, thus making Sable Island one of the most important marine stations in the world.

W. R. HOLLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *May 15, 1905.*

REHABILITATION OF FRENCH VINEYARDS.

(From United States Consul Jackson, La Rochelle, France.)

To the French vineyardist wine represents the greatest material good he knows or has ever known. The vineyard is the result of the labor and incessant care of his ancestors. The grandfather and the father toiled in sweat and suffering to improve it, and he who inherits it is to bequeath it as a precious legacy to his children, who already are beginning to have a knowledge of the business. Wine for him is not a curse, but a blessing. He understands its use, and deplores its abuse. He knows of no detail in the life of the vine which he has not followed. Its diseases and the remedies which cure them are familiar. The effects of the weather in springtime are anticipated for the vintage. From daylight to dark, through the long days, he labors in the white glare until the vintage song announces that the earth, watered by the sweat of his brow, has again yielded its fruits.

In the "good old times," fifty years ago, the brandy merchant shipped entire cargoes to the United States. In those days his vines covered

the hillsides and valleys from Angoulême to the sea. In 1872 began the invasion of the phylloxera, and in 1877 desolation reigned from one end to the other of the Cognac region. The lifeless vine stumps protruded from the earth, reminders of fortunes lost and hopes abandoned. It appears that some enterprising grower had brought from the United States a few vines in order to try them in Cognac soil. It was in the immediate vicinity of Cognac that the devastation began. The summer of 1875, being very dry, was particularly favorable for the development of the plague. The vines in the low-lying country were less affected, and in rare instances where the roots were under water in winter little injury was done. Vast sums of money were expended in various experiments, which were without practical utility until attempts were made to graft the French vines on American roots. Once having learned that such vines resisted the phylloxera successfully, the experiments were pursued zealously and logically.

Finding that no American vine known to the French grower would live in the shallow chalky soil of the champagne region, Mr. P. Viala was sent to the United States to find such a vine. After long and studious research he found in Texas soil of the same chemical composition as that of the grande champagne, in which thrived the Balandieri. This discovery was of stupendous importance to the brandy industry, as theretofore not only had it been impossible to find vines which would grow in Cognac soils, but the champagne districts produced the finest brandies. Without them, for blending with the more ordinary growths, the liquor produced from the fruit of the other American vines lacked finesse.

This was but one of the discoveries among many made in the United States which benefited this region. The other American vines and hybrids of greatest utility were: Berlandieri, Riparia-Berlandieri, Rupestris-Berlandieri, Riparia-Monticola, and Rupestris-Monticola.

In order that the situation might be studied more intelligently and the experiments carried out with greater exactitude, a station of viticulture was established at Cognac, for which special buildings were constructed in 1893. From the first appearance of the phylloxera until means were found to replant the ruined vineyards, the entire question was studied by the best experts in France. Many other diseases, among them black rot and mildew, had to be fought meanwhile, as the new plants growing under new conditions seemed particularly susceptible to external influence. Chlorosis was also one of the most persistent maladies.

It may be said, then, that the reconstituted vineyards of Cognac are planted with American vines upon which have been grafted French vines. This has been done at an expense of $60,000,000. The area under vines at present is very much less than it was before the phylloxera came, but the yield from a given area is very much greater.

With the replanting of the vineyards new methods were adopted. The vines were set out in straight rows, carefully trained to wires or posts, and great care is taken with the trimming. Formerly the vines were planted more or less irregularly and very close together. The advantages of the new system are in the great facility with which the ground can be worked and the increased yield of grapes. This latter is due directly to the American root. According to figures given me by a vineyardist competent to judge, in the old vineyards a given area yielded from 16 to 22 barrels, while the same area planted with American vines yields from 38 to 46 barrels. According to the present increase in the number of vines and acres planted, it will not be many years before the price of alcohol from wine will be as low as that of alcohol made from beets.

GEORGE H. JACKSON, *Consul.*

LA ROCHELLE, FRANCE, *May 3, 1905.*

WHEAT HARVEST OF VICTORIA, AUSTRALIA.

(From United States Vice-Consul-General Merrill, Melbourne, Australia.)

An official estimate of the wheat crop of Victoria, Australia, for the season 1904–5 has been issued by the Government statistician, who places the yield at 20,944,666 bushels from 2,271,846 acres, or an average of 9.22 bushels per acre. This estimate compares with previous yields thus:

Wheat harvest of Victoria in the years 1894–95 to 1904–5.

Year.	Area.	Yield.	Average yield per acre.
	Acres.	*Bushels.*	*Bushels.*
1894–95	1,373,668	11,445,878	8.33
1895–96	1,412,736	5,669,174	4.01
1896–97	1,580,613	7,091,029	4.49
1897–98	1,657,450	10,580,217	6.38
1898–99	2,154,163	19,581,304	9.09
1899–1900	2,165,693	15,237,943	7.04
1900–1901	2,017,321	17,847,321	8.85
1901–2	1,704,417	12,127,382	6.91
1902–3	1,994,271	2,569,364	1.29
1903–4	1,968,599	28,525,579	14.40
1904–5	2,271,846	20,944,666	9.22

It will be seen that the yield is the second largest on record. The average yield per acre has also only once been exceeded in the last fourteen years, while the area cut for grain was the greatest in the history of Victoria.

The total stock of old wheat and its equivalent in flour on hand on December 31, 1904, was 2,610,000 bushels, which, together with the yield stated, gives a total supply of 23,554,666 bushels. Allowing 1,800,000 bushels for seed and 6,500,000 bushels for consumption, there

should be at least 15,250,000 bushels available for export. Of this quantity about 7,000,000 bushels have already been exported, mostly to the United Kingdom.

A. P. MERRILL, *Vice-Consul-General.*

MELBOURNE, AUSTRALIA, *April 4, 1905.*

INTERSTATE TRADE IN AUSTRALIA.

(From United States Consul Goding, Newcastle, New South Wales.)

An analysis of the interstate trade in Australian manufactures in 1904 has been made by the statistical branch of the customs department, together with a comparative statement illustrating the growth of trade between the different States from 1899, two years before Federation, to 1904. Owing to various difficulties connected with the local tariffs, etc., it is only possible to present the result of the analysis in so far as it affects three States—Victoria, New South Wales, and South Australia.

The return shows that in 1899 Victoria exported to her neighbors goods in eight lines to the value of $1,634,972, while in 1904 she exported to them in the same lines goods to the value of $5,424,647.

Exports of certain manufactures from Victoria to New South Wales, Queensland, and South Australia, combined, in 1899 and 1904.

Articles.	1899.	1904.
Apparel	$583,371	$1,860,867
Biscuits	152,954	119,458
Boots and shoes	216,730	1,463,444
Confectionery	46,358	382,472
Hats and caps	40,382	338,226
Agricultural implements	450,827	778,382
Jams	105,058	340,178
Beer	39,292	141,625
Total	1,634,972	5,424,647

The following table shows with which of the neighboring States the growth of trade in Victorian manufactures has been most marked:

Exports of certain manufactures from Victoria to New South Wales, Queensland, and South Australia, separately, in 1899 and 1904.

Articles.	New South Wales.		Queensland.		South Australia.	
	1899.	1904.	1899.	1904.	1899.	1904.
Apparel	$310,429	$787,288	$17,529	$125,181	$19,806	$232,818
Beer	34,751	41,628	993	61,916	1,280	8,390
Biscuits	19,009	39,584	8,711	6,979	2,496	11,081
Boots and shoes	135,692	694,951	311	116,922	5,270	133,945
Confectionery	7,879	102,401	1,056	75,888	5,752	65,430
Hats and caps	14,463	148,759	2,793	45,137	5,844	56,826
Agricultural implements	410,139	527,426	22,999	48,344	1,771	155,669
Jams	39,554	117,428	287	99,174	1,139	13,383
Spirits	62,306	69,430	20,385	29,632	4,088	4,243
Wine	1,533	53,770	6,497	20,673	467	3,883

The interstate trade of New South Wales shows, proportionately, a much larger expansion than that of Victoria:

Exports of certain manufactures from New South Wales to Victoria, Queensland, and South Australia, combined, in 1899 and 1904.

Articles.	1899.	1904.
Apparel	$12,687	$407,248
Biscuits	19,062	169,067
Boots and shoes	72,992	492,694
Confectionery	944	46,266
Hats and caps	83	102,479
Agricultural implements	3,606	85,992
Jams	2,112	124,602
Beer	2,146	39,925
Total	113,632	1,418,273

Exports of certain manufactures from New South Wales to Victoria, Queensland, and South Australia, separately, in 1899 and 1904.

Articles.	New South Wales.		Queensland.		South Australia.	
	1899.	1904.	1899.	1904.	1899.	1904.
Apparel	$5,333	$40,971	$8,828	$233,353	$1,635	$63,298
Beer	423	16,385	1,119	19,933	.....	2,472
Biscuits	146	20,867	16,473	77,552	238	40,859
Boots and shoes	12,283	36,844	9,947	375,718	27,082	21,227
Confectionery	233	6,385	399	21,203	214	6,725
Hats and caps	53	9,519	30	64,710	.....	11,110
Agricultural implements	452	14,288	2,939	24,746	2,049	3,114
Jams	44	12,969	102	73,761	15	666
Spirits	2,662	41,146	370	13,402	1,601	7,957
Wine	10,312	2,423	7,869	26,547	10	3,270

The analysis of the South Australian exports to her neighbors is specially remarkable for the light it throws on one or two characteristic industries of Adelaide.

Exports of certain manufactures from South Australia to New South Wales, Victoria, and Queensland, separately, in 1899 and 1904.

Articles.	New South Wales.		Victoria.		Queensland.	
	1899.	1904.	1899.	1904.	1899.	1904.
Apparel	$49,638	$107,759	$2,219	$7,932	$379	$165
Beer	11,032	17,583	34	326	15	1,557
Biscuits	19,967	4,058	43	316	.....	.....
Boots and shoes	112,562	109,233	603	32,927	238	12,492
Confectionery	23,797	12,132	34	2,321	160	78
Hats and caps	3,684	10,375	182	409	.....	2,594
Agricultural implements	110,533	81,991	22,984	81,581	5,299	27,442
Jams	52,762	36,723	88	204	1,532	6,779
Spirits	2,944	45,793	1,110	27,846	1,693	6,672
Wine	17,037	120,358	5,090	88,224	13,245	36,698

Taking agricultural implements and jams as examples, curious fluctuations are revealed. In 1899 South Australia sold to New South Wales agricultural implements valued at $110,533; last year her sales totaled only $81,991. Victoria, however, in the same line, increased her purchases from $22,984 in 1899 to $81,581 in 1904, and Queensland and West Australia acted similarly. In the South Australian

trade in jams with New South Wales there is a falling off of over $16,000, whereas West Australia increased her purchases from $27,583 in 1899 to $51,805 in 1904. In boots and shoes South Australia has gone ahead, especially in her sales to West Australia, the increase in her exports to that State being from $21,977 in 1899 to $139,216 in 1904.

It is fairly obvious from a study of the foregoing data that the manufacturing States mentioned have largely increased their hold over the Australian market in certain leading lines of goods since federation was established.

F. W. GODING, *Consul.*

NEWCASTLE, NEW SOUTH WALES, *March 28, 1905.*

GERMAN MORTGAGE BANKS.

(From United States Consul-General Guenther, Frankfort, Germany.)

The thirty-seven German joint-stock companies doing business as mortgage banks had at the close of the year 1904 an aggregate share capital of 666,030,000 marks ($158,515,140), and their reserve funds aggregated 191,120,000 marks ($45,486,560). The total amount of the interest-bearing bonds these companies had out and owing was 7,889,810,000 marks ($1,877,774,780). The mortgages held by these banks on real estate amounted to 8,319,100,000 marks ($1,979,945,800), on which the average interest in 1904 was 4.21 per cent. On the bonds they have issued the banks pay from 3½ to 4 per cent per annum. The total net profits for 1904 were 71,840,000 marks ($17,097,920), and the average dividend paid in that year on the nominal share capital was 8.04 per cent. Two of these banks paid as high as 12.95 and 12.5 per cent; one paid nothing, and four paid from 3 to 4 per cent. The dividends paid by the rest ran from 4½ to 9 per cent, one paying 10 per cent.

The bonds issued by these banks are considered by the German people a first-class investment; the State governments allow widows' and orphans' funds to be invested in the bonds of some of them.

Owing to their high credit and the large dividends and reserve funds, the shares of these financial institutions command a high price in the money market, ranging from 19½ to 199 per cent above par; thus the shares pay only from 4 to 4½ per cent income on the investment at ruling market rates, and the bonds from 3½ to 4 per cent interest per annum.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *March 30, 1905.*

NATIONALITY OF SHIPS CARRYING CUBAN FOREIGN TRADE.

(From United States Consul-General Steinhart, Habana, Cuba.)

For the six months ended June 30, 1904, the value of imports of merchandise into Cuba amounted to $39,872,456, of which $15,416,503 represented imports from the United States carried in ships of the following nationalities:

Value of imports into Cuba from the United States and exports from Cuba to the United States, by nationality of carrying ships, in the six months ended June 30, 1904.

Nationality of ships.	Imports.			Exports.		
	By steamers.	By sailing vessels.	Total.	By steamers.	By sailing vessels.	Total.
	Dollars.	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Cuban	3,031,926	20,062	3,051,988	2,341,532	.....	2,341,532
American	8,267,086	800,271	9,067,357	11,426,520	400,730	11,827,250
British	607,398	213,096	820,494	20,764,938	237,142	21,002,080
Dutch	30,181	.....	30,181	263,515	.....	263,515
German	8,895	.....	8,895	500,125	.....	500,125
Spanish	41,255	.....	41,255	2,773,331	.....	2,773,331
Norwegian	2,342,211	.....	2,342,211	12,217,750	60,459	12,278,209
All other	46,809	7,313	54,122	2,103,074	20,503	2,123,577
Total	14,375,761	1,040,742	15,416,503	52,390,785	718,834	53,109,619

Value of total trade of Cuba with the United States, imports and exports, by nationality of carrying ships, during the six months ended June 30, 1904.

Nationality of ships.	Imports.	Exports.	Total.
	Dollars.	*Dollars.*	*Dollars.*
British	820,494	21,002,080	21,822,574
American	9,067,357	11,827,250	20,894,607
Norwegian	2,342,211	12,278,209	14,620,420
Cuban	3,051,988	2,341,532	5,393,520
Spanish	41,255	2,773,331	2,814,586
German	8,895	500,125	509,020
Dutch	30,181	263,515	293,696
All other	54,122	2,123,577	2,177,699
Total	15,416,503	53,109,619	68,526,122

The total number of ocean-going vessels which entered Cuban ports during the period under review, steam and sail, was 2,401, with a gross tonnage of 4,646,872 and a net tonnage of 2,989,975, of which 1,090 vessels, with a gross tonnage of 1,653,908 and a net tonnage of 1,085,063, sailed from the United States. Of these 1,090 vessels 456 were American, which cleared from the following ports: Key West, 98; Miami, 44; New York, 89; New Orleans, 32; Tampa, 71; other ports in the United States, 122. The gross tonnage of these 456 American vessels was 701,523 and the net tonnage 475,716, in which are included 21 ships, with a gross tonnage of 18,829 and a net tonnage of 13,097, which carried no freight.

The total number of ocean-going vessels which cleared from Cuban ports during the six months, steam and sail, was 2,399, with a gross tonnage of 4,640,487 and a net tonnage of 2,993,693, of which 1,336, with a gross tonnage of 2,207,831 and a net tonnage of 1,454,187, cleared for the United States. Of these, 508 were American ships with a gross tonnage of 811,925 and a net tonnage of 552,072; but 219 vessels out of the 508 cleared light, their gross tonnage amounting to 114,959 and their net tonnage to 86,075.

F. STEINHART, *Consul-General.*

HABANA, CUBA, *April 22, 1905.*

BUSINESS OPPORTUNITIES ABROAD.

(From United States Consul-General Guenther, Frankfort, Germany.)

Belgium.—The Société Nationale des Chemins de Fer at Brussels intends to construct a steam railroad from Ittre to Virginal.

British Africa.—The city of Durban, Natal, will raise a fund of $2,500,000 for public works.

The budget for 1905–6 of the colony of Lagos, West Africa, provides for the expenditure of the following sums: Extension of telegraph lines, $27,500; sewerage works, $41,000; electric lighting plant, $10,000; construction of a floating dock, $100,000.

The Cape Colony department of public works projects the construction of an iron bridge over the Quenera River; also steel viaducts.

British India.—The Great Indian Peninsular Railway Company, 48 Copthall avenue, London, invites bids for locomotives, boilers, switches, and various other railroad supplies of steel.

The East India Railway Company, Nicholas lane, London, is open for bids for steel rails.

The South Indian Railway Company, 55 Gracechurch street, London, will receive bids for furnishing 1,883 tons of steel bridge material.

The secretary of state for India invites bids for supplying steel and other rails. Applications should be directed to Director-General of Stores, India Office, Whitehall, S. W., London.

Chile.—The estimated cost of the new railroad which the Government will build from Arica to La Paz is $11,500,000.

China.—The Chinese Government is about to establish tanyards and leather manufactories, and the Chinese minister at Berlin has just engaged a German leather manufacturer to go to Huchang to superintend the works. This ought to afford a good opportunity for American manufacturers of tanning and leather-working machinery to obtain contracts.

Dutch Surinam.—The output of the Surinam gold mines in 1904 was 2,004 pounds.

Egypt.—The administration of the Egyptian railroads at Cairo wants to purchase 100,000 pine railroad ties.

The North Egypt Land Company has acquired 23 square miles of land from the Khedive for cultivation and other purposes.

England.—An electric tramway line is to be built at Dartford. Bids are invited for furnishing a 200-kilowatt dynamo, traction batteries, steam boilers, current distributing plant, steam pipes, etc.

Germany.—Bingen-on-the-Rhine will issue $480,000 for public improvements, and the university town of Heidelberg will issue $1,428,000 bonds for a similar purpose.

The municipality of Berlin will spend $1,904,000 for harbor improvements, including construction of an elevator and railroad tracks.

The city of Frankfort projects the erection of a cremation plant for burning garbage; estimated cost, $357,000.

An International Cookery and Hotel Equipment Exposition is to be held next October at Frankfort.

The municipalities of Mannheim, Ludwigshafen, and Duerkheim contemplate building an electric tramway to connect these towns.

The city of Pforzheim, Grand Duchy of Baden, which recently negotiated a loan of $1,666,000 to be used for public improvements, is going to erect an electric power station estimated to cost about $190,000.

Italy.—A large industrial school is to be established at Como, where spinning, dyeing, weaving, etc., of silk will be taught.

Mexico.—Applications for permission to erect power stations on the rivers Cantarranas, Atoyae, and Axaxalpa in the State of Puebla, have been made to the secretaria de comunicaciones, from whom particulars may be obtained at the City of Mexico.

Persia.—An English syndicate will construct large irrigation works.

Spain.—An exposition of agricultural machines and implements is to be held at Medina de Rioseco, province of Valladolid, from June 20 to July 10, 1905.

The Alcaldia Constitucional of Avila is offering bonds to the amount of $500,000, the proceeds to be used for installing electric plants and waterworks.

A steam railroad will be built from Val de Zafan to San Carlos de la Rapita.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *May 20, 1905.*

MANUFACTURE OF COGNAC BRANDY.

(*From United States Consul Jackson, La Rochelle, France.*)

Pure Cognac brandies are distilled from wines produced in the Cognac region, the Charente and Charente Inférieure, and are classed in quality by the section from which the wine comes. We have the "fine champagne," the "petite champagne," "borderies," "fins bois," "bois ordinaires," and "bois communs."

The "fine champagne" is grown in a section of the country directly to the south of Cognac, comprising half a circle of which Cognac is the center. The "petite champagne" is grown in a section which would be inclosed between the first half circle and a larger one parallel to it at a distance of several miles. The "borderie" is produced in a triangular bit of territory immediately to the north and slightly to the west of Cognac. Surrounding these areas, but extending a greater distance to the west and to the east, is the region in which is produced the "bois ordinaire," while the "bois commun" is produced between the last-mentioned section and the coast directly to the west and southwest. The "bois commun" is also produced on the islands of Ré and Oléron.

The wines are distilled under three different auspices:

1. By the "bouilleur de cru," a vineyard owner who distills his own product and sells it to the manufacturer. He usually possesses one still; sometimes two.

2. The "propriétaire," who distills his own product and that of his neighbors, from whom he may buy the wine or for whom he may distill for remuneration in kind. The "propriétaire" may possess four to eight stills.

3. The "merchant," who owns many important distilleries wherein are reduced to brandy the wines from his own vineyards and purchased wines. When the wine is bought the producer is paid in accordance with the degree of alcohol contained. The merchant may have sixteen or even twenty stills in each of his establishments, with a capacity for reducing 40,000 to 50,000 hectoliters (1,056,680 to 1,320,850 gallons) of wine into brandy during the season.

The methods of distillation vary greatly with the kind of wine, the district, and the person who has charge of the distillery. It may be said, as a rule, that all Cognac wines are distilled with the lees. The stills employed in the champagne district are usually simple pot stills, with or without "chauffe-vin." The simple still consists of the "chaudière," or boiler; the "chapiteau," which connects the boiler with the third part, and the condenser, with its serpentines. The "chauffe-vin" is supposed to be an improvement on the simple still by which several hours may be saved on each operation. It consists of a reser-

voir connected with the boiler, through which passes the pipe of the "chapiteau" containing the hot vapors of the wine, which warm the wine to a degree just under that necessary to produce vapors in sufficient quantity to be condensed; consequently when the boiler is emptied it can be refilled at once with wine at a temperature high enough to begin to give off vapors at once when over fire. The boiler is filled with wine by means of a pump, if the still has no "chauffe-vin," and from the "chauffe-vin" if having one. The boilers contain usually about 500 liters (132 gallons), and the liquid is evaporated by an even but mild heat, which is continued until the alcoholometer indicates that the distillate contains 0 alcohol. At this time it is found that from one-fourth to one-third of the quantity of wine has passed through the condenser, and that this distillate contains from 25 to 35 per cent per volume of alcohol. It is called "brouillis."

In the small distilleries a still is filled three times before enough brouillis is obtained to commence its redistillation. In the larger distilleries the products from three stills are united in a single still, and another or second distillation commences, by which the brouillis is converted into brandy. This is called "la bonne chauffe." The "bonne chauffe" is divided into three or four sections, as follows:

Five per cent of liquor which leaves the still possesses a highly disagreeable odor, due to excessive quantities of concentrated aldehydes and acetic ethers, of a color often greenish or whitish, called "la tête" or heading, which is received in a receptacle and kept apart from that which follows. The quantity may exceed 5 per cent, depending on the nature or quality of the wine. These headings are later mixed with another brouillis, or with what is called "seconds." This alcoholic heading, in condensing, has washed the interior of the serpentine and has removed certain oily matters which remained in the spiral from the preceding distillation. The part of the distillate which follows, known as the "coeur" or heart of the "bonne chauffe," is clear, and consists of from 80 to 85 per cent of alcohol. The "coeur" continues to run into the same receptacle until the alcoholometer indicates that the liquor leaving the still contains 50 per cent or perhaps 55 per cent of alcohol, according to the wine. When properly carried on, this process lasts about eight hours, and the liquid contains from 66 to 70 per cent of alcohol. This product is brandy. The distillation, however, is continued until again the alcoholometer registers 0 alcohol. The product of this third part of the distillation is called "queue" or tailing, and is generally added to the next lot of wine placed in the still. It contains from 20 to 24 per cent of alcohol. Sometimes, however, when the wine is very rich in alcohol, a fourth is produced, which is known as "seconds," and consists of that part of the operation wherein the distillate reduces its strength from 60 to 20 degrees. These seconds are usually added to the next brouillis, while the remain-

der of the alcohol obtained—that is, from 20 degrees to 0, which in this case is the tailing—is mixed with the next batch of wine. The seconds require about four hours of distillation, which makes the entire process last about twelve hours. This length of time of course applies to the "bonne chauffe."

The quality of the brandy produced may depend very largely on the purity of the copper of which the boiler, "chapiteau," and serpentine is composed, as it has often been remarked that the oily acids attack the metal and bring away in the distillate very perceptible quantities of copper compounds, which are disagreeable to the taste and are probably dangerous to health. Length of time taken may also mean much. Wine distilled too rapidly may force its fumes too quickly through the serpentine to be condensed, and consequently some of the elements most volatile may escape. Again, the point where the heart is separated from the tailing during the "bonne chauffe" may influence the taste and quality of the distillate. Certain of the superior alcohols pass earlier in the evaporation and the others later.

There are also what may be described as compound stills. These were invented with the object of producing brandy direct from wine in one operation or distillation. The principle of all these stills is that of a "chauffe-vin" and boiler combined in such a manner as to obtain the complete condensation of vapors which leave the boiler, thus producing a brouillis, which in its turn is redistilled. The condensation is generally effected by the "chauffe-vin," and the brouillis is collected in another or secondary boiler in which is inclosed the larger one. The heat, which is furnished by the alcoholic vapors of the boiling wine, produces a distillation of the brouillis, the vapors of which in their turn are sent into the serpentine and condensed into brandy. There are very large numbers and varieties of these compound stills, which are used only in the country of the "bois," where wines contain very much less aroma and have a peculiar taste which is called "terroir" or soily. The brandies produced from the bois wines are usually mixed or blended with the highly aromatic brandy of the "champagne" or of the "borderies" districts. A volume could be written describing the various compound stills which, although unchanging in principle, become more and more complicated as distance increases from Cognac, the center of the brandy business. The most complicated ones are used in the districts of "bois communs," and especially in the islands of Ré and Oléron.

In one of the larger distilleries I visited the distillation was carried on as follows, the boilers being filled twice in twenty-four hours: (1) In the morning half of the sixteen stills were filled with wine and had produced by evening the impure alcohol known as the brouillis or "flegme;" (2) in the evening all the boilers were filled with wine, and the next morning they had produced the brouillis; (3) all of the

brouillis collected the evening before and the morning following from twenty-four different stills is divided up and placed in eight of the sixteen stills and is submitted to a redistillation or rectification called "doubling." The other sixteen stills are filled with wine, as on the morning of the day before, in order to combine the process regularly and without interruption in the same manner during the entire season.

By this system each man is charged in the morning with the filling of one boiler with brouillis and one with wine; in the evening, two boilers with wine. This idea is the direct result of the quantity of brouillis produced by the distillation of wine, i. e., one-third, so that three boilers must be filled with wine and distilled by each man in order to have sufficient brouillis to fill a single boiler and commence its rectification. Each time a still is filled and each time its product is obtained, whether brouillis or brandy, a declaration is made upon a register which is kept continually at the disposition of the régie. Each barrel of wine, before it goes to the still, is numbered, and the still into which it goes must be known; its degree of alcohol is also inscribed in duplicate on a register, one copy of which is placed in a box of which only the officials of the régie have the key; the other copy remains as a stub in the register. The amount of brandy produced from that particular barrel of wine must be in proportion to its alcoholic strength, and a register of the quantity obtained in brouillis is kept in the same manner as for the wine. When the brouillis in its turn is distilled a corresponding record is kept of it and of the brandy which it produces. The products are placed in casks, each of which is numbered, and the quantity and strength of alcohol therein is also indicated on the barrel. This alcohol can not be removed from the premises, neither can any alcohol be brought to the premises or carried from one portion of a town or city to another without a permit from the régie, of which permits careful records are kept. The permits indicate by their color, white or pink, whether the alcohol represented by them is of wine or some other source than wine. It can be readily understood that this system renders the manipulation of alcohol exceedingly difficult to persons who desire to use it and conceal the fact, nevertheless I am ready to believe that permits are accorded to certain Cognac houses under which they receive other alcohol than that of wine. But this is a fact of which the Government officials always must have cognizance. It must also be remembered that it is not forbidden to redistill industrial alcohol with wine or lees of wine. But the record of such distillation must be kept, and is known to the Government officials.

The residues of the wine which is left in the still after the brouillis has been produced may be used for the manufacture of fraudulent liquors; but happily at Cognac it has been found recently that it is much more profitable to denaturate these residues with lime in order

to produce tartar salts, which contain from 48 to 52 per cent of pure tartaric acid. From recent unexpected visits to many distilleries, I believe that I am in a position to declare that several of the most important Cognac houses can not redistill the lees of wine, as I have seen them being mixed in the vats with lime and have knowledge of existing contracts with various houses to dispose of all these lees, which must be denaturated at the distillery for the manufacture of tartaric acid. Formerly, when the vintages were very small, owing to the ravages of the phylloxera, many irresponsible people added to the wine they distilled rectified spirit produced from beets. The large quantities of wine produced in the last four years make this proceeding practically useless from a financial point of view. It is further rendered exceedingly difficult by the new regulations of the French Government represented by the régie. It must be remembered, however, that the régie does not exist for the purpose of assuring the French Government and the public at large that a certain distillation is carried on in such a manner as to produce the best brandy, but to assure them that the alcohol contained in the brandy is pure grape alcohol. To this end the wine is followed by the control and is under the surveillance of these officers from the time it is put in barrels, during transport to the distillery, while being distilled, when it leaves the distillery as brandy, and until it reaches the consumer or until it leaves the country. The functions of the régie and the operations under their direct surveillance are: (1) Stamping or branding the boilers of the still and measuring them to know exactly their capacity; (2) each year before distillation begins, a declaration must be made covering the number, kind, and capacity of the various apparatus to be used. The machinery named is allowed to be put in service only under the surveillance of the régie, who have the right to exact information regarding it each time it is considered necessary.

GEORGE H. JACKSON, *Consul.*

LA ROCHELLE, FRANCE, *May 4, 1905.*

EXPORT DEPARTMENT STORES.

(From United States Consul-General Guenther, Frankfort, Germany.)

The cry now raised by export and trade papers in Germany and Austria is, "Start department stores abroad." One of these journals says that the Belgian export houses have established department stores in foreign countries, and that the United States Export Organization is acting upon the propaganda started by United States consuls for the establishment of American department stores abroad. In a book on Brazil, by Doctor Kundt, the author writes of reforming German trade with that country and points to the splendid success which a German syndicate has had in establishing a department store in Rio de Janeiro.

The Austro-Hungarian Export Association has requested the minister of commerce to pay the expenses of sending two experts to Mexico to study the conditions for establishing department stores there. Similar proposals have come from Austrian residents in Buenos Aires, speaking of the favorable opportunities which Argentina offers for such enterprises. Doctor Salomonsohn, a partner of the Disconto-Bank of Berlin, who made a tour of investigation through the United States, says in his book, giving his impressions of the journey, that "the most efficient means of defense against the 'American danger' is the adoption [by the Germans] of American methods, and, above all, the combination of German business firms."

Within the last few years "general stores," after the style of our department stores, have sprung up in the larger cities of Germany, and it is very likely that German enterprise and mercantile ability will soon establish department stores in transoceanic countries. It is now recognized that such establishments are an excellent means for promoting the export trade of a manufacturing country, obviating the consignment of goods to foreign commission houses. It is a direct means of introducing goods without resorting to agencies or soliciting the custom of foreign merchandise jobbers and selling on long credit terms.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *April 19, 1905.*

GINSENG IN CHINA.

(From United States Consul Anderson, Amoy, China.)

A large number of inquiries continue to be received by American consuls in China with respect to ginseng and the reception of the American root in China. Complaints have been made that the American product has been discriminated against and that it does not bring as good a price as the product of other countries, and reasons for this have been sought. A large amount of ginseng is used in the southern provinces of China, and Amoy has long been a center of the trade for this portion of the Empire. The customs returns for this port show that some of the complaints are well founded, as the following returns show:

Imports of ginseng into Amoy, China, 1903 and 1904.

Kind.	1903.		1904.	
	Quantity.	Value.	Quantity.	Value.
	Pounds.	*Dollars.*	*Pounds.*	*Dollars.*
American	16,677	89,842	16,493	77,220
Korean	4,065	50,095	3,531	36,052
Japanese	13	47	66	42
Chinese	71	97	491	1,536
Total	20,826	140,081	20,581	114,850

The decrease shown in 1904 is probably only temporary, but at the same time it is well to recognize the fact that modern medical methods and the use of foreign medicines are rapidly on the increase, which will doubtless cause a decline in the use of ginseng. It will be noted that American ginseng is bringing in this market about $5.30 Mexican per pound, while Korean ginseng is bringing about $12.50 Mexican per pound, the Japanese less than $4 Mexican per pound, and the native still less. The explanation for this is that the Chinese esteem the ginseng from the countries in question in this proportion. The reasons for this esteem are not easy to give. The Chinese value ginseng not only for whatever actual qualities it may possess, but also for qualities which they may believe it possesses. Ginseng roots which are knotted and gnarled, which have a grotesque or abnormal appearance, which are of a peculiar color or have an unusual quality of any sort, are generally more highly esteemed than those which are smooth, regular, and normal. Wild ginseng is preferred to the cultivated, and this of itself explains most of the difference between the Korean and American product. A ginseng root which resembles some animal, especially some fabulous animal, will bring a very high price. Cultivation naturally tends to produce regular, normal roots.

There is no discrimination against the American product as such, but the American product simply lacks the qualities desired by the Chinese consumers. American producers probably would realize more for their ginseng if they were careful to sort and classify it according to Chinese standards. The fact is to be realized, in connection with the prices quoted in this report for Amoy, that practically all of the ginseng brought here from America is handled by Hongkong dealers, who sort it according to Chinese market demands and of course make a big profit in handling it. If American ginseng growers can make their product appear wilder, more grotesque, more like the kind supposed to have supernatural qualities, they will realize more for it. It is doubtful if the root can be sent to China to advantage otherwise than through present channels. The Hongkong middlemen are serving a trade which has been built up during many years, and it is quite possible that to disturb it would be to destroy to a greater or less extent the present market for the product they handle.

GEORGE E. ANDERSON, *Consul.*

AMOY, CHINA, *March 8, 1905.*

NEW COAL FIELD IN NOVA SCOTIA.

(From United States Consul-General Holloway, Halifax, Nova Scotia.)

The recent discovery of coal about 20 miles south of Springhill is the most important mining event in many years in Nova Scotia. It is the direct result of deduction from painstaking investigations of the geological conditions at Springhill. Dawson, who stood in the front rank of Canadian geologists and whose conclusions were generally accepted without reserve, judged that the conglomerate rock that appears at Springhill and extends south was deposited before the coal measures; hence, where the conglomerate appears at the surface the conclusion was that no coal existed. Coal prospectors have, since his day, generally accepted the conglomerate district as nonproductive. Mr. Fletcher, of the geological survey of Canada, undertook a long and laborious examination of the surface indications, and arrived at conclusions directly at variance with Dawson's, namely, that the conglomerate was of a later age than the coal, and that there was no apparent reason why there were not coal seams at Springhill under the conglomerate. It was on this theory that a number of coal men formed an association to bore at a spot indicated by Mr. Fletcher. The work has resulted in the discovery of a fine coal field which, if not entirely new, is at least an extension of the Springhill field, embracing an area of 200 square miles or more. Mr. Fletcher assumed that coal would be reached at a depth of from 2,000 to 3,000 feet, and operations were commenced with that idea. The drill first pierced some 810 feet of reddish sandstone, etc., belonging to the upper Permian formation; then about 1,500 feet of conglomerate was met; then some 19 feet of sandstone, when the coal was struck. The drill went through some 12 feet of coal, but it made no core, and as the pitch of the seam is unknown its exact thickness can not be determined as yet.

W. R. HOLLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *May 9, 1905.*

SIAM'S FIRST FOREIGN LOAN.

(From United States Consul-General Guenther, Frankfort, Germany.)

The first Siamese loan ($5,000,000), which was recently placed on the London Stock Exchange, has aroused wide interest among the financial and exporting circles of Great Britain and the Continental countries. The German press calls attention to the importance of Siam as a market for goods "made in Germany," and says that "although three-fifths of all the foreign trade of Siam is carried by German vessels, and although German engineers have built some of

the railroads in that country and are managing the railway and postal departments there, Siam's foreign trade is chiefly with Great Britain and her colonies (Hongkong, Singapore, and the East Indies)."

A leading German financial journal says:

Siam is a rich country and has an intelligent population. While it is true that economically and commercially it has hitherto been principally controlled by British and French influence, it is equally true that the German element is well represented in Siam and has for a long time contributed to its culture.

Siam is a rising State. The great success which attended the issue of its first foreign loan will induce it to place additional loans for the purpose of developing its resources, the construction of additional railroads, and other internal improvements.

In view of this the question comes up whether the German banks should lend their aid to this rising State, whose finances are in the best possible condition.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *April 18, 1905.*

STRAWBERRY CULTURE IN CUBA.

Under date of May 27, 1905, United States Minister H. J. Squiers, of Habana, Cuba, transmits for the information of persons who may be interested in the cultivation of fruit in Cuba, a statement made to him by Mr. W. P. Ladd, an American living in Santiago de las Vegas, showing what he has realized in five months from three-fourths of an acre of land planted in strawberries.

When I started in with my plants last fall, I had an old bed of 1,000 plants and several thousand runners which they had made. I set to work to prepare the ground very carefully for the runners, selecting a piece of the chocolate land, as it held moisture and seemed best suited. Former experience had shown me that the red land was too porous and the plants would be too dry. After the land was plowed and harrowed several times in order to pulverize it as much as possible, I mixed in some good commercial fertilizer and let it lay for a time in order that it should get thoroughly mixed with the soil. Then I had the land carefully ridged up and on these ridges set the plants.

I had previously ordered a few thousand plants from the United States, but as these got through in bad condition there was only a small part left to set with my own runners. Previous experience had taught me to expect more from the native runners than from any new plants ordered, so I kept working them carefully, resetting where they did not live, and finally had on my three-fourths acre a fair stand.

In order to get this good stand I was very particular to protect the new-set plants in the rows by means of grass and palm leaves. As they commenced to grow and get accustomed to the change, the covering was gradually removed. In January, 1905, they commenced to bear, but the bearers were mostly native runners and the plants in my old bed. They have continued to bear up to date, which is the fifth month. During a long dry spell in the winter they were carefully

watered and tended and fertilizer applied as needed. The expense for them have been about as follows: Commercial fertilizer, $108; labor, $150; crates and baskets, $45; express on fruit, $80; total, $403. The berries found a ready market in Habana, selling for 30 and 40 cents per quart. Up to date I have sold $1,000 worth of berries, with a net profit of $597. This seems to be a fair return from the amount of money and labor expended.

I consider my old bed of greater value for the coming season than it has been in the past. The older plants are the better bearers and I have picked as many as 24 berries from a single plant.

MINES COMBINE IN BRITISH COLUMBIA.

(From United States Consul Dudley, Vancouver, British Columbia.)

The union of all the mining properties in the Rossland camp in one great corporation now seems almost certain to take place within a very short time. The mines are the Le Roi, Center Star, War Eagle, and the Snowshoe, and it is expected that the Trail smelter, East Kootenay coal lands, and Rossland Power Company will be included. After the minor points are arranged, about ninety days will have to elapse before the amalgamation becomes an accomplished fact. All the companies to be taken into the merger will have to hold extraordinary meetings, followed by the incorporation of the consolidated interests. I understand that the capital of the consolidated companies will be $7,500,000, of which $1,500,000 will be cash set apart for development purposes. The capital will be only about one-half the present capitalization.

It is said by well-informed persons that the aggregate value of the interests involved approaches $13,550,000, or about double the figure at which they are being consolidated. All the properties have paid substantial dividends on their present share capital, with the exception of the Snowshoe mine and the East Kootenay coal lands. The only reason the two latter are not large profit earners is their lack of development. The East Kootenay lands are said to be of enormous prospective value, fully equaling the holdings of the Crow's Nest Pass Coal Company.

The probable list of properties to be included in the merger and their capitalization follows: Le Roi mine, including the Northport smelter, $5,000,000; Center Star mine, $3,500,000; War Eagle and its associated mines, $2,000,000; Trail smelter, $1,250,000; East Kootenay coal lands, $1,000,000; Rossland Power Company, $300,000; Snowshoe mine, $500,000; total, $13,550,000.

Three of the mines have produced in the aggregate $25,000,000 in the first 1,000 feet of development.

L. EDWIN DUDLEY, *Consul.*

VANCOUVER, BRITISH COLUMBIA, *May 13, 1905.*

IMMIGRATION INTO AND EMIGRATION FROM THE UNITED KINGDOM.

(From United States Consul Hamm, Hull, England.)

Statistics relating to immigration into and emigration from the United Kingdom for 1904 have just been issued by the board of trade. They show that, as compared with recent years, 1904 was distinguished by an increase in the total passenger movement both inward and outward. The chief features of interest relating to countries out of Europe are: (1) The large British emigration to British North America; (2) the large emigration, both native and foreign, to the United States, and (3) the net inward movement of British passengers from South Africa. There was also a large increase in the number of returned emigrants from North America, South Africa, and New Zealand, sent back to the United Kingdom by the authorities for various causes.

Passenger movement into and from the United Kingdom in 1902, 1903, and 1904.

Outward and inward.	1902.	1903.	1904.
To and from non-European countries:			
Outward	386,779	449,006	453,877
Inward	170,874	199,685	241,896
Excess outward	215,905	249,321	211,981
From and to European countries:			
Inward	773,624	814,441	802,849
Outward	636,311	699,901	718,560
Excess inward	137,313	114,540	84,389
Total outward	1,023,090	1,148,907	1,172,437
Total inward	944,498	1,014,126	1,044,745
Excess outward	78,592	134,781	127,692

Examining the statistics of the movement to and from places out of Europe, we find that of the British and Irish passengers outward, 119,504, or 44 per cent, went to places within the British Empire, viz, 26 per cent to British North America, 10 per cent to British South Africa, 5 per cent to Australia and New Zealand, 2 per cent to British India and Ceylon, and the remainder to other British colonies and possessions. Of those going to foreign countries, nearly the whole went to the United States. The number of British and Irish passengers to South Africa was only 26,818, as compared with 50,206 in 1903 and 43,206 in 1902. The number who proceeded to British North America, on the other hand, reached 69,681, as compared with 59,652 in 1903, a number in excess of any previous figures. A considerable increase is also observable in the number who proceeded to the United States, these being 146,445 in 1904, as compared with 123,663 in 1903.

The number of foreign passengers to British North America was less than in any of the last few years, having fallen from 39,643 in 1903 to 21,917 in 1904.

Inward movement of passengers from non-European countries in 1902, 1903, and 1904.

Year.	British and Irish.	Foreigners.	Nationality not known.	Total.
1902	104,115	62,159	4,600	170,874
1903	112,914	82,390	4,381	192,685
1904	144,581	92,172	5,143	241,896

With respect to the emigrants rejected abroad, and sent back to this country on various grounds, it is interesting to observe that the great majority of cases so treated by the United States were because they were either (1) paupers or likely to become a public charge (248 British and Irish and 827 foreigners), (2) diseased persons (28 British and Irish and 221 foreigners), or (3) persons charged with violation of the contract labor law (43 British and Irish and 773 foreigners). Of the 153 persons sent back by the Canadian authorities, 112 (9 British and Irish and 103 foreigners) were rejected on account of disease. A new table has been added containing information based on returns obtained from the shipping companies, with regard to aliens to whom passages to places out of Europe were refused in the United Kingdom on the ground that they would probably be rejected by the immigration authorities of the countries to which they desired to proceed. It appears from these returns that passages were refused to 814 aliens in 1903 and to 1,721 in 1904, and that the great majority of these persons were suffering from trachoma. While many of the aliens are stated to have been returned to the Continent, a large number were sent to places in the United Kingdom, principally to London. The great majority of these, it seems, eventually succeed in reaching their desired destination, sometimes after a preliminary period of waiting in the metropolis, during which medical treatment is obtained at the hospitals and dispensaries. It is, however, pointed out that the large increase in 1904 in the number of persons rejected by the United States, or refused passage by the steamship companies, may, to some extent, be connected with the great lowering of passenger rates, resulting from the "rate war."

Some interesting figures are available as to the number of aliens who have to be relieved by public and private charities on their arrival in the United Kingdom. In London the Jewish Board of Guardians and the Conjoint Committee assisted 23,970 individuals, as compared with 19,536 in 1903. The poor law authorities relieved 4,162, as against 3,681 in 1903 and 3,234 in 1902. In Birmingham, Cardiff, Leeds, Liverpool, Manchester, and Sheffield the total number relieved was 1,685, of whom 583 were Russians and Poles, 192 Germans, 73

Italians, 43 Austro-Hungarians, and 2 Roumanians, the remainder being of other nationalities. The number for Leeds was 548, and this number is exceeded only by that for Liverpool. The total of 1,685 represents an increase of 29 over the number relieved in 1902. In Scotland the number of aliens relieved at Govan, Glasgow, Greenock, and Port Glasgow totaled 156, as compared with 120 in the preceding year.

The total number of persons entered on the alien lists for 1904 was 194,986, as against 207,191 in 1903 and 200,011 in 1902. Of these 99,278 were stated on the lists to be en route to other countries. Deducting these, as well as 12,863 seamen (only very few of whom can be prospective settlers), we have a remainder of 82,845, as compared with a similar remainder in 1903 of 69,168, and in 1902 of 66,471. If we further deduct the aliens as ascertained by officers of the customs to be en route to other countries, we obtain a remainder of 75,148 who settled in the United Kingdom, as compared with 59,429 in 1903 and 58,488 in 1902.

Nationality of immigrants into and remaining in the United Kingdom in 1902, 1903, and 1904.

Nationality.	1902.	1903.	1904.
Russians and Poles	28,511	30,046	46,095
Norwegians, Swedes, and Danes	5,028	4,702	4,827
Germans	6,965	7,503	7,084
Dutch	2,456	3,761	4,082
French	6,637	6,495	6,565
Austro-Hungarians	3,144	4,005	2,199
Italians	7,734	7,045	6,300
Roumanians	1,282	565	513
Other nationalities	4,714	5,047	5,181
Total	66,471	69,168	82,845

Of the Russians and Poles, 35,651, or 77 per cent, and of the Roumanians, 257, or 50 per cent, arrived in London, and consist principally of Jews.

WALTER C. HAMM, *United States Consul.*

HULL, ENGLAND, *May 2, 1905.*

CANADIAN IMMIGRATION INSPECTION.

(*From United States Consul Dudley, Vancouver, British Columbia.*)

Last autumn the Dominion government appointed Dr. J. A. L. McAlpine inspector of immigration at this port, since which time immigrants arriving in British Columbia have been subjected to a medical examination.

P. H. Bryce, of Ottawa, chief medical officer of the department of the interior, is now here. The impression prevails that an additional

inspector will be appointed at an early day. Replying to questions of a representative of the local papers, Doctor Bryce is reported to have said:

The inspection service inaugurated last fall was merely provisional to allow the department an opportunity to see how it worked. As time goes on the service will be perfected. Any matters of complaint will be rectified, should there be cause for such a course. I have been thrown so much in contact with complaints by people subjected to inspection that I am slow to believe all the reports I hear.

I have come to the coast on business connected with my department, and shall remain here for some days examining into conditions generally. The inspection service in British Columbia has now been in force long enough to give the department an insight into its requirements here.

The service in the east is giving every satisfaction. We recently had to establish a detention hospital at Montreal, for we found that a very large number of immigrants were being admitted to the United States Atlantic coast ports without proper inspection. Many of these immigrants eventually found their way to Montreal. In the third week of its existence the Montreal hospital had 55 patients. Only last week 300 immigrants were detained in Quebec. They all came over in one ship. I think that the transportation companies are becoming more careful with respect to the class of people they bring to Canada. They are commencing to understand that undesirables will not be allowed to enter the country.

L. EDWIN DUDLEY, *Consul.*

VANCOUVER, BRITISH COLUMBIA, *May 13, 1905.*

AGRICULTURE IN EGYPT.

(From United States Consul-General Guenther, Frankfort, Germany.)

The agricultural expert attached to the German consulate-general at Cairo has written a voluminous report on the activity of the Khedivial Agricultural Society at Cairo, which aims to foster Egyptian husbandry.

The society procures and furnishes to the native planters and peasants all sorts of seeds and plants, investigates and tests agricultural machines and implements, imports foreign cattle to improve the native stock, conducts a laboratory where an entomologist and a chemist pursue investigations on insects, bacteria, etc., inimical to agriculture, and study fertilizers and other means of improving the quality of the products and increasing the crops.

The society holds an annual exhibition of Egyptian products in its grounds near Cairo. The expert, speaking of the exhibition of February, 1905, says:

It was opened by the Khedive in person, and the attendance, comprising the diplomatic corps and all prominent officials, was very large. Most of the space was taken up by the exhibits of the great

English, German, and American machinery works which have agencies at Cairo and Alexandria. Prominent among these exhibits were the steam pumps and steam plows of several English firms, also an American production, the New Geyser Peerless plow. Among German exhibits those of the German dairy near Cairo and the portable narrow-gauge railroads and locomotives manufactured in Germany are noteworthy. An English firm which is exploiting the extensive phosphate deposits at Keneh, Egypt, exhibited its fertilizers. There was quite a large show of samples of cotton raised from foreign seeds. Owing to the prevailing rinderpest no animals were exhibited.

Egypt's agriculture is rapidly advancing. Our manufacturers should find there a good market for agricultural machines and implements.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *April 25, 1905.*

TRADE CONDITIONS AT SWATOW, CHINA.

(From United States Consul Anderson, Amoy, China.)

There is prospect of more direct trade between Swatow and the Philippines than has existed heretofore. It is understood that one of the transportation companies running steamships between Hongkong and the Philippines, by way of Swatow and Amoy, is planning a direct service between Swatow and certain Philippine ports of one steamer a fortnight, and oftener if the trade justifies. There is considerable cooly traffic out of Swatow at the present time, but under existing conditions it is dealt with by the consuls at Hongkong or Amoy. Swatow is shipping vast quantities of Chinese food products to the Philippines and to the Straits Settlements, as well as to Chinese ports. In season, large quantities of oranges of a good grade are exported. Trade with more southern points is growing in importance. Pickled cabbage and garlic form a staple, and considerable quantities of ginger, pomeloes, bananas, and fruit of various sorts are handled.

The use of foreign goods in Swatow is growing, and the large sums of money sent home by Swatow men abroad enable the people to keep up their foreign purchases in good volume.

The Japanese lamp chimney factory in Swatow is doing a good business, and is working a constantly increasing force of men. It is turning out a cheap product, which answers the demands of the Chinese market.

Work on the railroad from Swatow to Chuchow, at present in small force because of the recent riot in which two Japanese workmen were killed, has given an impetus to local trade.

Trade relations with the interior from Swatow are growing better. The sale of kerosene from small boats up river is increasing the volume of business in that commodity very greatly.

More direct trade with the Philippines will help Swatow greatly. It ought to be of corresponding benefit to trade in the Philippines and with the United States.

GEORGE E. ANDERSON, *Consul.*

AMOY, CHINA, *April 3, 1905.*

ENGLISH FISHERIES.

(From United States Consul Hamm, Hull, England.)

The following striking figures as to the importance of the fishing industry in England are taken from the official report for 1903. They give the value of all kinds of fish landed in England and Wales, and the number of men and boys employed in the business. The value of the fish was over $35,000,000, and the business gave employment to 41,539 persons.

STEAM VERSUS SAILS.

For some years there was a steady decline in the number of first-class sailing trawlers. That was arrested in 1903, though the fall in the average tonnage continued. As there was a slight increase of first-class steam trawlers, whereas the number had been stationary in 1901 and 1902, this would appear to show a confidence on the part of owners in the continued prosperity of the industry. This is accentuated by the fact that the average tonnage of the steam trawlers is increasing. In 1902 there were 1,096 first-class steam trawlers with an average tonnage of 56.3; the following year there were 1,135 with an average tonnage of 57.3. There were 822 first-class sailing trawlers in 1903, an increase of 15, but the average tonnage fell from 40 to 39.1. "Sailers" are not likely to become obsolete. The report states that owing to economic conditions (such as price of coal, etc.) and the different kinds of fishing apparatus employed the respective spheres of operation of steam and sail will always be more or less sharply defined. Steam is now employed on the larger "sailers" for hauling work in the manipulation of trawl and sails, and by the adoption of auxiliary motor power, to be used on occasions when sails are unavailable, the position of sailing trawlers is likely to be still further strengthened. It is estimated that 9,721 vessels were employed in the fisheries in 1903, ranging from the large Iceland steam trawler to the small open rowing boat, and 1,457 were propelled by steam, 6,911 by sails, and 1,353 by oars. The steamers with very few exceptions use an otter trawl, adapted for fairly level, smooth ground, and workable in deep water; the "sailers" use the beam trawl, which is not usually employed below a moderate depth, but can be used when required on rough and sloping ground. There are "ordinary" steam trawlers, to the number of about 1,000, which fish as far away as Faroe, Iceland, and the Bay of Biscay, and land their own fish; and there are "fleeting" trawlers, about 150 in all, which work together in large fleets on the same ground and send their fish to Billingsgate by special steamers known as "carriers."

CONCENTRATION OF THE INDUSTRY.

The tendency is to concentrate the fishing industry at a few ports. Of the first-class steamers five ports on the east coast—North Shields, Hull, Grimsby, Yarmouth, and Lowestoft—have 1,214, or 83 per cent of the total. The points that determine choice of steam trawling centers are facilities for dock accommodation, lowness of price, and readiness of supply of coal and ice, and facility of access to Billingsgate and other centers of consumption. "Keen competition between rival ports in catering for the needs of this class of shipping may be expected," says the report, "and may have a beneficial influence upon railway rates, and thereby on the price of fish to the consumer."

For every foreign steam trawler engaged, or likely to have been engaged, in fishing in the North Sea, there were five from the North Sea ports of England alone.

Vessels fishing by trawls and lines go farther and farther afield in search of new grounds. Grimsby sends about 55 steam liners and between 60 and 70 steam trawlers to Icelandic and Faroese grounds, while 80 steamboats from Hull also fish off Iceland.

Until some eight or nine years ago the trawlers limited themselves to the southeast side of Iceland, or at any rate did not go farther from home than to the Westmanna Islands. This was owing partly to their limited coal-carrying capacity—the largest vessels then not exceeding 150 tons gross tonnage—and partly to the fact that fish were found in sufficient abundance to make the comparatively short voyages remunerative. At the present time some of the vessels are of as much as 275 tons burden, and most are sufficiently large and well-equipped to permit of their circumnavigating Iceland, visiting the more distant waters, and fishing all the year round. Each vessel may make from twenty to thirty voyages a year, and may bring home from 20 to 100 tons of fish per voyage. The catch consists of plaice, haddock, halibut, ling, torsk, skate, and cod. Much fish is now brought home and found to be salable which was formerly regarded as valueless and thrown overboard, it being estimated that in the early days of the trade some 50 per cent of the catch was thus rejected.

THE PROFITABLE HERRING.

There were landed at all stations in England and Wales during 1903 nearly 153,000 tons of herrings. The average value per hundredweight was $1.40, as against $1.50 in 1902 and $1.74 in 1901.

Herrings form the great bulk of exports of fish, and they go mostly to Germany. The value of exported herrings in 1903 was $11,961,461, as against $14,277,911 in the previous year, the fall being in values rather than quantities. It may be mentioned here, as showing the reputation enjoyed by the British salmon, that this fish was exported to the value of $284,519 in 1903.

WALTER C. HAMM, *Consul.*

HULL, ENGLAND, *May 13, 1905.*

SEA-GRASS FURNITURE.

(From United States Consul Anderson, Amoy, China.)

A large trade is being built up along the lower Chinese coast in furniture made from bamboo and a certain sea grass which the Chinese have used for centuries in many ways but which has heretofore not been used for furniture. Considerable of the trade is with the United States, chiefly by way of Hongkong. The manufacture of chairs and small tables from this material was commenced by two American citizens from the Pacific coast. They began making the well-known rattan furniture, and exported much of it to the United States. Casting about for new and novel materials, they hit upon this coarse grass, and after considerable experimenting they found that upon suitable bamboo frames they could make fairly substantial and very pretty articles. The natives imitated their work, and now it may be said to be an industry common to many points along the coast. The grass is secured in the salt-water marshes along the lower coast, especially below Swatow, and ranging toward Canton. It can be had in abundance, almost without limit, in fact, and its pliability and strength are such as to make it available for not only furniture but for other purposes. It is greenish yellow, maintains its color and strength, and might be used to advantage in other industries.

The use of rattan furniture in China by both foreigners and natives is increasing, but exports are small in spite of low prices. The great freight charges due to its bulk make any great trade in it impossible. It is probable, however, that there will be a considerable increase in the export of raw materials for the manufacture of such furniture in the United States.

GEORGE E. ANDERSON, *Consul.*

AMOY, CHINA, *April 12, 1905.*

INSTANTANEOUS X-RAY PHOTOGRAPHS.

(From United States Consul-General Guenther, Frankfort, Germany.)

X-ray photography has labored under the disadvantage of demanding long exposure, while, for practical purposes, instantaneous pictures were required. Professor Rieder and Dr. Joseph Rosenthal, of Munich, have attained the desired end. After laborious experiments they have succeeded in obtaining in less than a second X-ray photographs of the human chest, the patient ceasing to breathe meanwhile. Strong electric currents, especially good X-ray tubes, very sensitive photographic films, and intensifying screens were used.

They have worked on unremittingly after their first success, and have now published in the Medical Week, of Munich, a report concern-

ing their further experiments. They find that high-priced and easily perishable films can be dispensed with, as less sensitive photographic plates or films will produce as good pictures in not more than a few seconds. It is, however, of the greatest importance that the time of exposure be shortened as much as possible for certain X-ray photographs, for instance, when it is desired to show the structure of the lungs.

While they formerly had taken a photograph during one intermission of breathing, they tried to reduce the time of exposure to the time between the beatings of the heart, as the heart beats impair the exactness of the picture. It was evident that for X-ray pictures of the heart such an accomplishment would be of great value. The first difficulty was to get a precise and reliable measurement of the length of time necessary to apply the rays for photographic purposes. This they accomplished by a contrivance consisting principally of a wooden disk covered with lead, the diameter of which is about 39 inches. From this disk a sector was cut, amounting to about one-seventh of its total surface. The object to be photographed and the sensitive plate were placed behind the disk and the X-ray apparatus in front. The X-rays were passed through the opening in the disk while it revolved on its center once in a second, the exposure of the plate to the rays thus lasting one-seventh of a second. By changing the speed of the revolution of the disk the time of utilizing the X-rays could of course be either increased or decreased. The X-ray apparatus was supplied with a tube of very thin glass. In addition the most sensitive films, and especially strong X-rays, were used. Good X-ray photographs were secured in one-tenth of a second. The outlines of the heart and of large portions of the lungs can be photographed with much greater success than was possible heretofore.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *May 8, 1905.*

AGRICULTURAL LOSSES IN CANADA.

(From United States Consul Holloway, Halifax, Nova Scotia.)

At many points on the line of the Intercolonial Railway last winter's snow can yet be seen on the tops of the mountains. Throughout the country districts the farmers are complaining of the cold, backward spring weather, and but little seeding has been done to date. The growth of vegetation has been very meager, but many young cattle have been turned out to care for themselves because feeding them on hay is practically out of the question. The most a great many farmers can do is to secure feed for their milch cows and team horses, and these, in many cases, are on short allowance.

The Halifax Herald says: "Fully $1,000,000 were paid for hay by the farmers of Nova Scotia during the last four months." "Take my own case," said a well-to-do farmer; "last year I sold $275 worth of hay. This year, in order to get my stock through the winter, I was forced to purchase $125 worth, so you see I am $400 worse off in that respect alone than I was last year. It will take the farmers, providing we have average crops, five years to recover last year's losses."

From other sources the Herald learns that these statements are well within the mark. The amount paid out for hay does not represent the entire loss, for there must be added the depreciation of stock. Cattle of all kinds, because of short allowance, have fallen away in flesh to an extent which means that it will take them the greater part of the summer, if not the entire summer, to recuperate. The feed which should go to produce dairy products will be necessary to the regaining of lost weight. There is bound to be a falling off in the production of cheese as compared with other years. The price of dairy cows stands at about $30 each, and as it has taken two tons of hay, at $15 a ton, to winter a cow, it will be seen that they have "eaten their heads off." Not only have cattle of all kinds depreciated in flesh, but hundreds have succumbed.

Money is scarce in the country districts. Hundreds of thousands of dollars have already been sent out of the Dominion to pay for hay. The scarcity of money is also attributed to the great depth of snow in the forests. Last winter the lumbering operations were largely a failure. Many people were unable to obtain firewood, and are resorting to old fence rails for fuel. That the pinch is being severely felt is beyond doubt, and a prominent business man remarked yesterday that it is reflecting itself in the towns and cities. Country merchants are selling less, and therefore purchasing less.

W. R. HOLLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *May 19, 1905.*

WATER POWER FOR ELECTRIC ENERGY.

(From United States Consul-General Guenther, Frankfort, Germany.)

The utilization of water power for the creation of electric energy has increased to an extraordinary degree in recent years, although it is to be noted that the power so far used is only an infinitesimal fraction of the aggregate water power of the world.

The amount of water power utilized has been estimated to be 1,500,000 horsepower in round numbers. The United States uses the largest amount, mainly on account of the employment of the power of Niagara Falls, which also secures second place to Canada. In round numbers in the United States about 550,000 horsepower of electric

energy is derived from water power; in Canada, 250,000; in Italy about 200,000; in France, 160,000; in Switzerland, 135,000; in Germany, 81,000; in Sweden, 71,000, and in other countries lesser amounts. As these statistics are undoubtedly incomplete, the aggregate water power utilized for electric energy in the world is probably 2,000,000 horsepower, which is about twice the steam power used in England and Ireland combined.

The largest undertaking for the transmission of electric power in Europe has recently been inaugurated by the Company for Electric and Mechanical Industry at Geneva, Switzerland. The water power for this plant is furnished by the river Isère, and up to 630,000 horsepower is intended to be utilized. Transmission will be by means of strong copper wires from Moutiers as far as Lyon. Owing to the great distance, a considerable loss of power has to be reckoned with. The current is to be sent under a high voltage—56,960 volts—and it is expected that at arrival in Lyon a voltage of 50,000 will still remain.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *April 28, 1905.*

TRADE OPPORTUNITIES ABROAD.

(From United States Consul-General Guenther, Frankfort, Germany.)

ELECTRIC ENTERPRISES.

Argentina.—The Compania Tranvias Electricos del Sur, Buenos Aires, plans the construction of an electric tramway from Lomas to Quilmes.

Austria.—The municipality of Judenburg, Styria, will build an electric tramway line, and its electric plant is to be considerably enlarged.

The town of Feldkirch, Vorarlberg, projects the erection of electrical and waterworks.

Germany.—Karlsruhe, Baden, will issue bonds for $476,000, and Darmstadt, Hesse, for $1,428,000, the proceeds to be expended for electric plants and tramways, bathing establishments, hospitals and surgeries, sewerage and waterworks, etc.

The municipality of Bingen-on-the-Rhine has received the concession for building two lines of electric tramway—one to Bingerbrueck, the other to Buedesheim.

The city of Heidelberg, Baden, will build an electric tramway line to Kirchheim.

Italy.—The municipality of Como has contracted with the tramway company of that town to construct an electric tramway line to Chiasso.

Mexico.—The Compania Electra at Guadalajara, which furnishes

the electric light for that city, will change the tramways to electric traction.

Netherlands.—An electric railroad to run from Mastricht to Margraten and Vaals is projected. Apply to de Jong and Knepper, Mastricht.

Spain.—The Compania Electrica Hadrilena de Traccion, Madrid, has received the concession for building a new line of electric tramway.

Switzerland.—The Bellinzona-Mesocco Railway Company, office at Bellinzona, will build an electric railroad.

RAILWAYS.

Belgium.—The Société Nationale des Chemins de Fer Vicinaux, Brussels, invites tenders for constructing a railway line from Dalhem to Foureon le Comte and from Leffingte to Dixmude.

British South Africa.—The Eastern Suburbs Tramway Syndicate, of Cape Town, intends to construct several new tramway lines.

Egypt.—The Egyptian State Railway Administration, Cairo, purposes the laying of a second track on the lines Wasta Minieh, Zagazug-Tel-el-Kebir, and Koubbeh Margp; estimated cost, $3,500,000. For depot extensions, lighting plants, freight storage sheds, and other railroad improvements, $4,529,900 are to be expended.

Mexico.—The Compania des Ferrocarril de San Rafael y Alixo has obtained a concession to construct a railroad from Atlanta to Ozumba.

Netherlands.—The municipality of Gouda and that of Lichtenvoorde plan the construction of steam railroads.

Servia.—The Direction of the Servian State Railways, Belgrade, will award the contract for building a section, 20 miles in length, from Sajatscha to Bogovine.

Spain.—The Sociedad Francesca Piritas de Huelva will construct a steam railroad to Valdelamusa.

MISCELLANEOUS.

Austria.—The Austrian Government has just made a contract with the Danubius Marine and Machine Works for the construction of six torpedo destroyers and ten seagoing torpedo boats, to cost $3,225,000. It is stipulated that the Danubius Company will build a modern shipyard at Fiume, Hungary.

The municipality of Fischern, Bohemia, projects the installation of water mains.

Belgium.—The Services de la Marine, Brussels, will award contracts for six lots of coal, averaging from 1,900 to 3,000 tons per lot, to be delivered at the port of Ostend.

Germany.—The town of Hof, Bavaria, has issued $286,000 bonds to be used for public works, and the town of Landshut, Bavaria, $357,000

for the same purpose. These bond issues are usually made to pay for electric lighting plants.

The municipality of Mülhausen, Alsace-Lorraine, will spend $952,000 on public works.

Italy.—In consequence of the privileges offered to new industrial undertakings establishing themselves at Naples (previously reported by this consulate-general), several iron works are to be erected there. The Ferriere Italiane is about to build a blast furnace, and the Milan Silvestri are building branch works for making railroad materials. Several textile factories are now going up, among them a cotton spinnery, with a working capital of $800,000, and a mill for spinning jute yarn, with a capital of $300,000. American contractors and supply sources for factories, electric plants, machinery, etc., would do well to look after Naples' trade.

The Ministerio della Marina, Rome, invites bids for supplying about $51,400 worth of lubricating oil for the Italian navy.

The authorities at Spezia offer a prize for the best plan for a sewerage system to be built in that city.

The municipality of Ribera projects the construction of waterworks.

Netherlands.—The cities of Gravenhage and Leiden and the town of Velsen will erect new gas works.

Russia.—The Government projects the construction of extensive harbor works along the Black Sea.

Spain.—The Establecimento Central de los Servicios Administrativo-Militares in Madrid invites bids for supplying 71,000 yards of jute stuff for flour bags.

The Government will ask the Cortes to make an appropriation for the building of eight line battle ships, each of 14,000 tons, five armored cruisers, and a number of other war ships.

The Direccion General de Telegrafos, Madrid, will receive bids for constructing and operating for twenty years a telephone system at Mahon, Balearic Islands.

Spanish Africa.—The Junta de Obras del Puerto at Melilla (Morocco) projects new harbor works at that port.

SUGGESTION.

Our large manufacturing works ought to combine and establish branches and agencies in Europe for the purpose of contracting for electric plants, railroads and supplies for same, machinery, dry docks, and other large constructions.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *May 27, 1905.*

MULES AND BROOD MARES FOR CUBA.

(From United States Consul Griffith, Matamoros, Mexico.)

There has been considerable inquiry in this district lately for native-bred mules and brood mares by agents representing the large sugar haciendas of central and eastern Cuba. The demand is constantly increasing, due, as stated by these agents, to increased acreage and the scarcity of work animals. The agents, mostly Americans, who are collecting these animals state that the Cuban demand is for native-bred Mexican mares from 13 to 14 hands high. These are to be bred with well-graded Spanish jacks. It is thought that the offspring will be peculiarly adapted to Cuban climatic conditions. The relatively higher prices which obtain in Texas for animals of a similar type have had the effect of diverting much of this trade to the Mexican side of the Rio Grande.

The small native Mexican mules are preferred to the larger American mules, so it is asserted, owing to economy in cost of feed and to their greater activity. The Mexican brood mares are worth from $15 to $20 Mexican money ($7.16 to $9.54), while the mules find a ready market at from $25 to $35 Mexican money ($11.73 to $16.70). They are shipped through Texas in bond from this city and loaded aboard ship at Galveston for the Cuban ports.

The major portion of northern, eastern, and southern Tamaulipas is practically devoted to stock raising, and as the pasture lands have received much more rain within the last two seasons than for many years the ranchmen report the grazing to be much better than ordinary, and that the stock animals are in a correspondingly improved condition.

P. MERRILL GRIFFITH, *Consul.*

MATAMOROS, MEXICO, *May 13, 1905.*

ADULTERATION OF FOODS IN GERMANY.

(From United States Consul-General Guenther, Frankfort, Germany.)

Dr. H. Matthes, director of the bureau office for examining foods of the University of Jena, has published a statement relating to the articles most frequently adulterated. According to this statement 520 samples were examined in 1903 and 1,369 in 1904. This number did not include 116 samples of milk which were found to contain a very high percentage of dirt.

It was found that apricots contained sulphurous acid; effervescent lemonades did not contain a trace of pure fruit juices; butter contained too little fat and too much water; so-called baking butter consisted

of oleomargarine; egg noodles contained no yolk of eggs, or at least only very small quantities; huckleberry juice was spoiled completely; raspberry juice was greatly diluted, and some samples contained glucose and coal-tar dyestuffs; mince-meat contained sulphurous acid; ground mace contained flour, ground toasted bread, Bombay mace, and nutmeg; marmalades were mixed with glucose and colored with coal-tar dyes; milk was watered, skimmed, and often very dirty; pepper contained lime, sand, and a good deal of the shell; sausages contained flour, boracic acid, and coloring matter; preserving salts contained sulphurous, boracic, flouric, and benzoic acids, etc.

The report complains of the indifference shown by the masses regarding purity and reliability of articles of food and the custom which prevails in large cities of having the examinations of such articles made by persons not experts.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *May 10, 1905.*

FOREIGN COMMERCE OF RUSSIA IN 1904.

(From United States Consul-General Watts, St. Petersburg, Russia.)

The following statements show the foreign commerce of Russia for the four years ended December 31, 1904:[a]

Imports and exports of Russia during the four years 1901 to 1904.

Year.	Exports.	Imports.	Total trade.
	Dollars.	*Dollars.*	*Dollars.*
1901–1903 (average)	417,500,000	277,400,000	694,900,000
1903	474,800,000	300,700,000	775,600,000
1904	477,500,000	291,700,000	769,200,000

EXPORTS.

The exports in 1904, as compared with the averages for 1901–1903, show an increase of 14.4 per cent, but with those of 1903 an increase of only 0.6 per cent.

Value of exports from Russia, by groups, in 1901–1903, 1903, and 1904.

Groups.	1901–1903 (average).	1903.	1904.
	Dollars.	*Dollars.*	*Dollars.*
Alimentary goods	258,800,000	297,700,000	307,400,000
Raw and half-worked materials	137,900,000	156,300,000	150,400,000
Animals	10,400,000	10,100,000	8,100,000
Manufactures	10,400,000	10,700,000	11,600,000
Total	417,500,000	474,800,000	477,500,000

[a] Throughout this report Consul-General Watts, in his reductions from Russian to American currency, has estimated the ruble at 50 cents; its actual value is 51.5 cents.

More than one-half the total value of exports consisted of grain, viz: 1901–1903 (average), 339,000,000 bushels, valued at $209,000,000; 1903, 390,240,000 bushels, valued at $238,800,000; 1904, 388,860,000 bushels, valued at $247,600,000.

Value of principal alimentary products exported from Russia in 1903 and 1904.

Products.	Exported in—		Increase.	Decrease.
	1903.	1904.		
	Dollars.	*Dollars.*	*Dollars.*	*Dollars.*
Potatoes	300,000	883,000	583,000	.....
Salted fish	1,225,000	1,378,500	153,500	.....
Tobacco	655,000	745,500	90,500	.....
Spirits	370,000	1,279,000	909,000	.....
Eggs	25,544,000	27,164,000	1,620,000	.....
Fruits and dried berries	284,000	17,500	.....	266,500
Meats	1,631,000	1,370,000	.....	261,000
Butter	15,784,000	14,776,000	.....	1,008,000
Granulated sugar	7,150,000	6,258,000	.....	892,000

IMPORTS.

The imports of foreign goods into Russia in 1904 ($291,700,000) were 3.2 per cent less than in 1903, but in comparison with the mean average of the years 1901–1903 there was an increase of $14,400,000, or 5.2 per cent.

Value of imports into Russia during the years 1901 to 1904, by groups.

Groups.	1901–1903 (average).	1903.	1904.
	Dollars.	*Dollars.*	*Dollars.*
Alimentary goods	42,300,000	43,500,000	46,300,000
Raw and half-worked materials	154,350,000	171,400,000	166,400,000
Animals	750,000	400,000	700,000
Manufactures	80,000,000	85,400,000	78,300,000
Total	277,400,000	300,700,000	291,700,000

Quantities and value of principal imports into Russia in 1901–1903 and 1904.

Commodities.	1901–1903 (average).		1904.	
	Quantity.	*Dollars.*	*Quantity.*	*Dollars.*
Cereals, fruits, berries, nuts, etc.....pounds..	192,204,000	4,737,000	199,944,000	4,855,000
Tea.....do....	51,948,000	13,542,000	65,772,000	15,294,000
Herring, salt and smoked.....do....	304,308,000	5,772,000	405,396,000	7,932,000
Beeswax.....do....	7,344,000	1,893,000	9,324,000	2,714,000
Tallow.....do....	45,864,000	1,758,000	70,200,000	2,958,000
Hops.....do....	864,000	175,000	1,332,000	457,000
Coal.....tons..	2,911,301	9,105,000	3,109,524	9,826,000
Coke.....do....	466,793	1,739,000	565,079	2,314,000
Cotton.....do....	170,047	36,250,000	172,794	50,370,000
Agricultural machinery.....do....	32,683	6,202,000	41,555	6,421,000

Exports and imports of Russia to and from the several countries in 1904.

Country.	Exports.	Imports.	Total.
	Dollars.	*Dollars.*	*Dollars.*
Germany	120,400,000	112,600,000	233,000,000
Great Britain	118,700,000	51,200,000	169,900,000
Netherlands	49,500,000	5,600,000	55,100,000
France	32,000,000	13,000,000	45,000,000
Italy	26,500,000	4,900,000	31,400,000
Belgium	22,000,000	3,400,000	25,400,000
Austria-Hungary	20,500,000	10,700,000	31,200,000
Denmark	15,000,000	3,300,000	18,300,000
Turkey	12,400,000	3,000,000	15,400,000
Sweden	5,600,000	2,600,000	8,200,000
Roumania	4,500,000	.....	4,500,000
Spain	4,200,000	.....	4,200,000
Norway	4,100,000	3,800,000	7,900,000
British India	2,900,000	4,300,000	7,200,000
United States	2,200,000	31,200,000	33,400,000
Egypt	2,200,000	7,900,000	10,100,000
All other countries	34,800,000	34,200,000	69,000,000
Total	477,500,000	291,700,000	769,200,000

The exports to the following countries in 1904 show decreases as compared with 1903: Netherlands, France, Italy, Egypt, Roumania, Norway, British India, and the United States. The exports to all other countries show increases.

The imports into Russia in 1904 as compared with 1903 decreased from all countries except Belgium, Sweden, Norway, Netherlands, Egypt, China, and Denmark.

ETHELBERT WATTS, *Consul-General.*

ST. PETERSBURG, RUSSIA, *April 17, 1905.*

FRONTIER REGULATIONS FOR AUTOMOBILE TRAVEL IN EUROPE.

The following abstract of the frontier regulations respecting customs duties, etc., affecting travelers by automobiles and motor cycles entering various European countries for temporary sojourns, translated from the Automobile Welt, Berlin, was transmitted by Vice-Consul-General Alvesto S. Hogue, Vienna, Austria, April 29, 1905:

Austria.—The duty on automobiles and motor cycles must be deposited and a receipt taken at the time they enter the country. The money will be repaid to the traveler on his recrossing the frontier with the machine if the receipt is presented to the customs authorities. The receipt is valid for two months and may in certain cases be extended, but not beyond December 31 of the year of issue.

Belgium.—The duty is 12 per cent ad valorem, paid on entry; a receipt valid for a year is given.

Denmark.—No duty is collected on automobiles for traveling purposes. A simple declaration of the traveler that the entry is temporary is sufficient.

Germany.—Automobiles and cycles are identified at the last customhouse before leaving German soil, so that there may be no additional proceedings on their reentering the country. On foreign automobiles

the duty is 150 marks ($35.70) each. The automobile is provided with a lead seal. The amount will be repaid if the receipt is presented at the custom-house when the machine is taken out of the country.

England.—Automobiles in condition for use are duty free. There are no special requirements.

France.—On entry of automobiles into France a guaranty must be deposited, viz, 50 francs ($9.65) for 100 kilograms (220 pounds) if the vehicle weighs more than 125 kilograms (275 pounds), and 120 francs ($23.16) if it weighs less than 125 kilograms. The customs receipt is good for six months, and the amount will be repaid to the traveler on his leaving the country.

Greece.—Besides a nonreturnable fee of a few drachmas (1 drachma= 19.3 cents) the duty on automobiles is calculated according to a special tariff. When the vehicle leaves the country the duty is repaid, but 5 drachmas (97 cents) for expenses and an additional payment are deducted if it does not repass the same custom-house as on entering.

Italy.—For motor cycles with two or more wheels 42.60 lire ($8.22) duty must be deposited. Automobiles with two wheels and three springs attached directly to the vehicle pay 110 lire ($21.23). Motor vehicles having more than two wheels and three springs which are attached directly to the vehicle or by means of auxiliary springs pay a duty of 330 lire ($63.69). The receipt is valid for six months, but the period may be extended to one year through a written application made before expiration of the six months. The money will be refunded to the traveler on leaving the country.

Luxembourg.—Automobiles are duty free if in condition for use on entering from Germany, as Luxembourg belongs to the German Customs Union. The duty is 150 marks ($35.70). The duty will be refunded when the traveler leaves the country on condition that he has given a notice containing a description of the automobile and place of entering and leaving the country to the custom-house in Luxembourg ten days before his entry.

Netherlands.—Automobiles are free of duty if used for traveling, but the frontier customs official has discretionary authority, as a matter of precaution, to demand a deposit, which may not exceed 5 per cent of the value. The receipt is valid for one year, and the duty will be refunded on presentation to any frontier customs official by the traveler on recrossing the border with the vehicle.

Norway.—Automobiles are free of duty as a means of traveling. The traveler must make written declaration that the vehicle is for the purpose of travel and is being entered for temporary sojourn only.

Portugal.—Duties are established for particular cases. Deposit will be refunded when machine is taken from the country. Notice by letter or telegram should be given to the frontier customs official concerned.

Roumania.—Duties on vehicles are according to a special tariff. Deposit will be refunded when machine is taken from the country. Previous notice is advisable.

Russia.—Vehicles can cross the frontier only by special permission of the minister of finance obtained by written request. The duty for a two-seated vehicle is 90 rubles ($46.35) in gold and 20 per cent extra for coach and trimmings; for a four-seated or larger vehicle the duty is 132 rubles (67.98) in gold and 20 per cent extra. Duty on the motor is additional, according to a special tariff. There are

many requirements to be fulfilled. Duty will be refunded to traveler in two to ten months, when he leaves the country with the machine.

Sweden.—A duty of 15 per cent of the value of the vehicle is required to be deposited, to be refunded when the machine is taken out of the country. Under some circumstances expenses may amount to 5.5 crowns ($1.47).

Switzerland.—A free passport of admission for six months is granted for automobiles with lead seal attached. Otherwise the rates of duty are 20 francs ($3.86) for 100 kilograms (220 pounds) and 4 francs (77 cents) for 100 kilograms of the motor.

Spain.—A duty of 18.50 pesetas ($3.57) is levied per 100 kilograms (220 pounds) for motors, and for vehicles according to form, varying from 350 pesetas ($67.55) to 1,000 pesetas ($193). The receipt must be duly confirmed by the frontier customs official where machine is taken out of the country before presentation at the custom-house first passed on entering the country in order to have deposit refunded.

Turkey.—A duty of 8 per cent is collected on vehicles. Two per cent will be refunded to traveler when his machine is taken out of the country. An excessively high assessment should be guarded against.

It is sometimes necessary, and always advisable, to have an authentic description of the automobile, weight, number, etc., signed or stamped by the manufacturer, to be presented at the frontier or elsewhere. Previous notice to customs officials as to entering or leaving a country will be the means of facilitating matters in many cases.

CANADIAN BUSINESS OPPORTUNITIES.

(From United States Consul-General Holloway, Halifax, Nova Scotia.)

BIDS INVITED.

The department of public works at Fredericton, New Brunswick, will receive tenders for the rebuilding of the McFarlane bridge over the east branch of Turtle Creek at Hillsboro.

G. B. Murphy, Moosomin, Northwest Territory, is inviting tenders for the erection of a general hospital in that town.

The city of Windsor has decided to build an entirely new and modern lighting plant, and as soon as it is completed application will be made for legislation permitting the city to engage in commercial lighting.

The chairman of the board of works, Peterboro, Ontario, is inviting tenders for the construction of a main sewer and sedimentation tank, requiring 270 feet of 14-inch iron submerged outlet pipe, 1,400 feet of 18-inch tile pipe, and 1,300 feet of 15-inch tile pipe.

WANTS.

A Canadian firm desires to purchase machines for manufacturing waste pieces of hard wood into toothpicks, skewers, etc.

A correspondent in Liscard, England, asks for quotations and prices

on all classes of match-making machinery necessary for the equipment of a small plant.

A Glasgow firm asks for quotations on any surplus stock that manufacturers may have to dispose of in Great Britain. Cash payment will be made for any goods purchased.

A superintendent for large machinery plant in the province of Ontario is wanted.

Inquiries should be addressed to the secretary of the Canadian Manufacturers' Association, Toronto.

W. R. HOLLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *May 23, 1905.*

HYDRAULIC POWER IN PERU.

(From United States Consul Gottschalk, Callao, Peru.)

Attention has been called repeatedly to the fact that, although the entire Peruvian coast region may be said to languish for lack of proper irrigation, there exists a sufficient supply of water in the Andean highlands to greatly increase the extent of lands now under cultivation. The attention of the Peruvian Government is being more and more attracted to the irrigation problem, and sooner or later there is certain to be devised some mechanical means of bringing water in quantities from the Cordillera to the coast. With this will come the possibility of using Andean waters for hydraulic power—a possibility to which my attention was first called by Lieutenant Fullinwider, of our Navy, during a visit of Admiral Glass's squadron to this coast in 1904—as the waters of the Rimac River are now being used at Chosica to supply electric light and traction for Lima and suburbs. A curious feature is the use of the water over and over again for irrigation, for the generation of electrical power, and for flushing drains, etc., along the course of the stream.

On request, I was courteously furnished with the following data by Mr. C. Reginald Enock, an English engineer, whose extensive travels through the interior of Peru, and numerous reports on engineering subjects published in England and the United States, have made him competent to speak authoritatively in the matter:

Peru possesses a valuable element in the yet undeveloped hydraulic power which exists on both the eastern and western slope of the Cordillera of the Andes. The source of this water supply is the ice cap above the line of perpetual snow which crowns the summit of the range and the continual and exceedingly heavy snow and rain storms of the high plateaus. All along this vast chain, from Ecuador to Chile, there exists a series of lakes, practically astride the summit of the Andes, at altitudes varying from 12,000 to 17,000 feet above sea level, and these, together with the streams to which they give rise, form the source of

enormous hydraulic energy. The volumes of water which descend upon the Pacific side are not necessarily very great, but they are numerous and constant and their fall is exceedingly rapid.

As an example, the river Rimac, which rises in the ice cap of the Cordillera, at an elevation of more than 17,000 feet, debouches on the coast at Callao, with a course not more than 80 miles long. This river is already used as motive power for generating electricity for the railway between Lima and Callao, and could furnish constant and unlimited power over any portion of its course. Similar conditions exist, more or less, with the numerous other rivers and streams all along the 1,500 miles of Pacific littoral belonging to Peru.

On the eastern slope of the Cordillera the volume of the streams is greater for the rainfall is far heavier, due to the well-known climatic conditions to which the Andes give rise. In short, the Andes may be considered as a mighty engine, continually intercepting and storing up the moisture of the continent upon its summits, and thence discharging it again under such conditions as create energy in a limitless form and available for the uses of man.

A. L. M. GOTTSCHALK, *Consul.*

CALLAO, PERU, *April 22, 1905.*

FARMING IN ARGENTINA.

(From United States Consul-General Mayer, Buenos Aires, Argentina.)

The staple crops of Argentina are wheat, corn, and flax; other products are cotton, tobacco, birdseed, rice, potatoes, oats, oranges, bananas, peaches, vegetables, sugar cane, and wine grapes. Alfalfa is a very important forage crop. Wheat and corn are grown in practically the same zone. Cattle feeding is almost unknown at present. There are good openings for men with some capital who are experts in this line.

The prices of corn and wheat lands vary according to quality and location, being as high as $80 and $90 an acre near the important markets, but land almost as productive may be bought for $3 and $4 an acre on the frontier.

The lands of nearly one-half of the Republic are used for grazing, being unfit for the plow. Much of the area in the grain zone is used for grazing, not because it can not be tilled, but because the owners have not yet awakened to the advantage and profit of using the plow. The grain zone may roughly be said to lie between the thirtieth and fortieth parallels of south latitude, in the territory east of the Andes. The grazing region comprises all the country south of the fortieth parallel and a considerable part of the mountainous region west of the sixty-fifth meridian. Some of the land north of the thirtieth parallel is used for grazing purposes, but much will produce superior cotton, tobacco, rice, sugar, etc.

The prices of farm labor vary as greatly as do the prices of land. In the grain regions good native or foreign workers command $12 to $20 a month, and harvest hands from $1.25 to $2.50 a day. In the grazing districts prices are lower; in some instances good stock hands receive from $9 to $12 a month, and the use of a small plot of land. Most of the farm implements are imported from the United States.

It is hardly possible to state the minimum capital required to start corn or wheat farming. In some places a man might begin with $500, in others $3,000 would be none too much for a modest beginning. Some of the large farmers here have from $100,000 to $150,000 invested.

Generally there is abundance of rain, but once in fifteen or twenty years there is not sufficient for good crops. In the north in some years the locusts or grasshoppers are a serious pest in some places; otherwise there is nothing to complain of. The Government is stable, and people who can adapt themselves to the conditions in force here will have no trouble from that source. The principles of administration, however, are very different from those of the United States. The prevailing language and many of the customs are Spanish. There is no difficulty about land titles. About 40 per cent of the population are Italians. There are many Spaniards, about 30,000 British and Irish, and probably 1,500 Americans here, besides people of a number of other nationalities.

The climate is as diversified as that of the United States. The greater part of the country, however, has a climate like Texas, Oklahoma, Kansas, Nebraska, etc., except that the winters are somewhat milder and the summers not so hot. The average yearly rainfall in the farming section is between 35 and 50 inches, according to the region.

Corn is selling this week at 38 to 42 cents a bushel; the prices generally vary from 25 to 45 cents. The cost of production is very low and the yield often high. The best wheat is selling for 70 to 75 cents a bushel. This is higher than usual, but perhaps lower than the price is likely to be generally in the years to come. The price of oats, of which very little is raised, is about the same as that of corn. Fat steers are now being marketed in Buenos Aires at $20 to $35 each, according to size and quality. Fat cows bring from $15 to $28 each. One should bear in mind that while the prices quoted are not nearly so high as in the United States, the cost of production is correspondingly lower. All the prices given have been reduced to United States equivalents.

D. MAYER, *Consul-General.*

BUENOS AIRES, ARGENTINA, *April 19, 1905.*

PRODUCING POWER OF THE BRITISH EMPIRE.

(From United States Consul Halstead, Birmingham, England.)

The board of trade recently issued a "Statistical abstract for the British Empire, each year from 1889 to 1903," from which the Financial Times has compiled the following table, showing the changes brought about in the production of certain commodities in 1903 from the production of similar commodities fifteen years previously:

Production of principal commodities in the British Empire in 1889 and in 1903.

Commodity.	1889.	1903.	Inc. (+) or dec. (−).
Coal, tons..	185,800,000	256,400,000	+ 70,600,000
Iron ore, do....	14,600,000	[a] 14,600,000	.....
Gold, ounces..	1,943,000	[a] 8,225,000	+ 6,282,000
Pig iron, tons..	8,300,000	9,200,000	+ 900,000
Wheat, bushels..	[b] 407,100,000	552,500,000	+145,400,000
Barley, do....	106,400,000	106,100,000	− 300,000
Oats, do....	254,600,000	349,300,000	+ 94,700,000
Wine, gallons..	9,100,000	11,500,000	+ 2,400,000
Tea, pounds..	141,134,000	361,900,000	+220,766,000
Coffee, do....	49,300,000	38,400,000	− 10,900,000
Cotton, do....	1,178,700,000	1,314,100,000	+135,400,000
Jute, hundredweight..	[c] 10,600,000	22,800,000	+ 12,200,000
Raw sugar, do....	[d] 54,700,000	50,000,000	− 4,700,000

[a] 1902. [b] 1890. [c] 1891. [d] 1898.

The decline in the output of raw sugar is explained as the effect of the sugar-bounty system on the Continent, which demoralized the cane-sugar industry of certain British colonies, and the decline in coffee production is assigned to the fact that in Ceylon it has been found more profitable to devote attention to tea. The production of barley in the United Kingdom has slightly declined, but that of the rest of the Empire has increased to about the same extent. The output of iron ore has remained about stationary.

The increase in the production of coal, while mainly the output of the United Kingdom, has been augmented by India, New Zealand, Canada, and South Africa. The striking improvement in the gold output may in part be attributed to the recent inclusion of the Transvaal in the Empire, but also, to a not inconsiderable extent, to the increase of the Australian output, which has advanced from 1,500,000 to 4,500,000 ounces, while the output of New Zealand, Canada, India, the Gold Coast, and British Guiana has also considerably increased. The steady decline in wheat harvests of Great Britian has been more than compensated by the increase in the Canadian product. Most of the increased wine production of the Empire comes from Australia, and the enormous increase in the tea production is almost entirely in India and Ceylon. Natal has of late years become a tea producer of some importance also. The increase in the production of raw cotton is almost entirely to be credited to India.

The Times also comments on other information in the report. The production of raw wool in the United Kingdom has remained pr ctically stationary during the fifteen years, the total production for 1889 and 1903 being each given at 133,000,000 pounds; but it is to be remembered that the Australian crop of wool shrank from 601,000,000 pounds in 1892 to 400,000,000 pounds in 1903, owing to severe droughts, while the South African export showed a decline owing to the recent war. Shipments of wool from New Zealand and Canada show fair increases. The United Kingdom's position in regard to horned cattle is practically stationary, the number of head being given at 11,500,000 for 1892 and 11,400,000 in 1903. While India, Canada, and New Zealand show considerable increases in the number of horned cattle raised, Australia shows a decrease. The number of sheep remains practically the same, though the falling off in the Australian total owing to the drought is more marked than in cattle.

"On the whole," remarks the reviewer, "it can not be said that the growth of food products within the Empire has been commensurate with the increase of population. In the twenty years, 1881 to 1901, the inhabitants of the Empire increased in round numbers from 363,000,000 to 420,000,000, an advance of 57,000,000, and although of this increase 40,000,000 was in the Indian population, yet nearly 7,000,000 was in the United Kingdom and 10,000,000 in other British possessions and colonies. In short, it appears that the Empire has become less self-sufficing in a most important respect."

MARSHAL HALSTEAD, *Consul.*

BIRMINGHAM, ENGLAND, *May 8, 1905.*

OOLONG TEA TRADE.

(From United States Consul Anderson, Amoy, China.)

Practical tea men in the United States are taking an unusual interest in the Oolong tea trade at present, and in Chinese teas in general. Previous reports, especially of teas from Anhui and Chekiang provinces, have brought a surprisingly large number of inquiries, and it is plain that if there is to be a revival of the lagging industry there will be cordial cooperation in the United States.

At present the prospect is far from satisfactory. The tea raising of China is burdened with taxation and a system of revenue restraints which can but discourage the people who have been producers. Shipments abroad have decreased from year to year. A few years ago tea was one of the products by the export of which China paid its foreign debts, but it has so far lost its place now that it is no more important than commodities which a few years ago were not exported at all. China still sends the bulk of its tea crop to the United States and

Asiatic Russia, but it is permitting teas from other countries to invade its markets. Undoubtedly there would be a change for the better in the trade if the present tax was removed. The Government has so far refused to remove the tax on the ground that it produces revenue which can not be dispensed with in the present state of Chinese finances. While this may seem to be the case, it looks to an outsider as though it is a question as to whether the Government will do without this revenue willingly for a time until the tea-raising industry is again upon a firm foundation or whether it will be compelled to do without it in a very few more years by the simple fact that the industry has practically disappeared. The situation certainly demands some heroic remedy.

At first view it looks as though it made no difference whence Americans bought their tea and that if the commodity can be supplied from India or from Formosa better than from China there is no occasion for complaint. It is plain, however, that with Chinese tea continuing in the world's markets the supply of cheap tea is to that extent increased. With improved methods of tea raising in China prices will certainly be reduced everywhere.

The loss in the exports of tea is less absolute than relative. For instance, in 1864, when the Chinese tea trade had not yet reached its maximum, out of a total value of exports amounting to about $35,000,000 gold, silk contributed 24 per cent; tea, 58 per cent; raw cotton (an exceptional export, owing to the civil war in the United States), 12 per cent, and all other goods 6 per cent. In 1904, out of a total export trade valued at $167,300,000 gold, silk contributed 33 per cent; tea, 12½ per cent; raw cotton, 10½ per cent, and other goods 44 per cent, and tea, silk, and cotton exports were all exceptionally large in proportion as compared with recent years. In line with this general trend of figures it is very significant to note that when the tax on tea was reduced in 1902 there was an increase in the exports of 9 per cent black tea, 19 per cent green tea, and 8 per cent brick tea, notwithstanding that the tea crop for 1903 was on the whole much inferior to previous crops and notwithstanding that prices ranged from $2.75 to $5 gold per 100 pounds, with silver prices ranging much higher, owing to the state of silver exchange.

In speaking of the general tea situation in China in 1904, Mr. H. B. Morse, the statistical secretary of the imperial maritime customs, in his annual report, says:

In the enumeration of exports tea is still given first place, on account of its past importance. The total shipments of all kinds amounted to 1,451,249 piculs (193,466,500 pounds), a decrease of 226,281 piculs (30,170,800 pounds). Black leaf shows no diminution; green leaf fell off 60,474 piculs (8,063,200 pounds), fairly distributed over all of the consuming markets, and brick tea—black and green together—accounts for the rest of the reduction, being less by 170,763 piculs (22,768,400 pounds). The lessened export of brick tea left a larger quantity of

dust for shipment. The maintenance of the figures for black tea will teach the Chinese growers and packers a false lesson in leading them to believe that they can retain their trade in the face of careless and unscientific methods of growing and preparation; they should remember that the restriction of the market for brick tea left more of the crop free for packing as leaf. Large shipments of green tea in the two previous years lessened the demand during the past year, and the reduction in the export of brick tea is explainable by the difficulties of transport to the consuming area in Asiatic Russia.

The general trend of the Chinese tea trade, even allowing for the most promising districts and for every favorable prospect, is downward. The history of the export tea trade of Amoy perhaps fairly represents the change all over the old tea-growing area of the Empire, although of course some new districts have been opened. Thirty years ago the Amoy district exported to the United States alone 12,000,000 pounds of tea each year. Last year the district exported only 915,800 pounds, which went almost altogether to Singapore and the Straits Settlements for Chinese who have emigrated there and who insist upon having the tea to which they are accustomed. Last year there was packed and shipped in and from Amoy 13,393,000 pounds of Formosan tea, raised in Formosa, picked, packed temporarily, and shipped across the Formosan channel, then repacked and exported. There is no reason why Formosan tea should be better than the Amoy district product of the same classes and varieties, but the refusal of the Chinese growers and packers to turn to modern methods of cultivation, preparation, and handling, and the refusal of the authorities to do away with the burdensome taxation, which falls upon the industry at every turn in the progress of the tea from the small garden patch of the average grower to the coast, combine to make the decrease in the export inevitable. At the same time the immense increase in the exports of Formosan tea demonstrates that the old-time market of the Chinese grower and packer is where it has always been if he can reach it with the right product. The decline in the Amoy shipments of Amoy Oolong, Pouchong, and Souchong speaks for itself in the following table, covering the exports of tea from this port for the past ten years.

Exports of Amoy Oolong, Pouchong, and Souchong tea from Amoy, China, 1894 to 1904.

Year.	Oolong.	Pouchong.	Souchong.	Total.
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*
1894	3,908,300	.....	18,100	3,926,400
1895	2,109,600	.....	16,800	2,126,400
1896	3,959,500	374,500	12,400	4,346,400
1897	1,171,400	426,800	15,700	1,614,900
1898	940,900	300,800	18,700	1,259,400
1899	826,500	432,800	16,900	1,276,200
1900	490,500	380,700	31,100	902,300
1901	525,600	389,200	20,800	935,600
1902	471,700	372,000	26,500	870,200
1903	450,400	445,200	26,100	921,700
1904	408,700	482,100	20,100	910,900

The following table of exports of Formosan tea from Amoy does not show how the Formosan tea has cut into the Chinese trade in their own teas; but the figures are interesting and pertinent. The rise in direct exports from Formosa tells the full story.

Exports of Formosan Oolong and Pouchong tea from Amoy, China, 1894 to 1904.

Year.	Oolong.	Pouchong.	Total.
	Pounds.	*Pounds.*	*Pounds.*
1894	22,658,062	1,500,108	24,158,170
1895	14,754,716	1,415,565	16,170,281
1896	23,256,400	799,000	20,055,400
1897	16,283,400	1,355,400	17,638,800
1898	17,427,000	1,269,600	18,696,600
1899	16,489,200	1,294,000	17,783,200
1900	16,782,900	1,463,800	18,246,700
1901	15,155,800	1,383,300	16,539,100
1902	16,640,500	1,186,900	17,827,400
1903	14,362,000	1,295,100	15,657,100
1904	12,234,100	1,203,800	13,437,900

It is not necessary to dwell upon the reasons for this preponderance of Formosan Oolong, for they are thoroughly appreciated by every practical tea man. The Japanese, in their development of the Formosan tea trade, have adopted labor-saving devices and modern methods of curing and handling the leaf. They have employed cheap labor just as the Chinese have employed it; in fact much of it is Chinese labor from Amoy, but they have discarded the ancient methods to which the Chinese cling. For many years Amoy had the tea trade of all the country hereabouts without a rival. In time Amoy tea men investigated Formosa as a general trade proposition and made the experiment of growing tea. The Oolong grown was highly satisfactory and the business was at once begun upon an extensive scale. The plan was, and continued to be for years, to grow the tea in Formosa and ship it in temporary packing to Amoy, where it was prepared for export and permanently packed in the large establishments in this place. Gradually the production of tea on the hills about Amoy diminished, while the production of tea in Formosa increased by immense strides. At first all this Formosan tea was handled in Amoy. In time some of it was permanently packed in Formosa and shipped direct. The proportion of tea shipped direct has increased from year to year and is shown in the foregoing table of exports of Formosan tea from Amoy in view of the fact that the yearly shipments from Formosa on the whole have increased. The natural deduction from this course of general increase, while shipments from Amoy have decreased, is that the Amoy trade in Formosa tea is of short life.

There are enthusiastic Formosa men who say that this Amoy trade will disappear in less than a decade. On the other hand, there are a number of reasons why it will be maintained at about its present stage, assuming that the demand for the Oolong teas remains the same. One

is that the firms engaged in the tea trade in Amoy have large establishments and considerable investments in this port and they will continue to use these establishments even if compelled to do so on a smaller margin of profit than tea is handled from Formosa direct. Another reason is that Formosan harbors are very poor and it is difficult for ships to enter and load, and this is to be of increasing importance in the immediate future since the size of trans-Pacific vessels is constantly increasing. Before long such vessels will be able to load only at deep-water harbors like that of Amoy. Perhaps the most cogent reason of all is that the policy of the Japanese in Formosa is such as to keep foreign firms out of business on the island by the development of Japanese firms in the same line of business on a lower-cost scale. The tea market both in America and in Europe is one which must be handled to a great extent through established channels. Firms now in the business have an advantage which it will take years of effort to overcome, if it can be overcome at all. If the business of foreigners in Formosa is to be confined to the buying and selling of tea it is quite probable that the tea will be purchased in the tea season and shipped out of Formosa to be distributed later as it is from Amoy at the present time.

In the meanwhile, so far as the United States is concerned, the trade in Chinese Oolong is absolutely dead. There is no reason why the hills in the Amoy district should not now be producing immense crops of the best grades of Oolong. So long as the present tax on tea remains this will not be the case. There are tea men who say that even now it is too late to save this trade to China, but the recuperative power of the average Chinese industry is marvelous. The widespread knowledge of tea raising among the people, the fact that tea is produced in China mostly in small patches, and the ability of the Chinese people to turn readily to something which promises profitable returns combine to make it probable that when the raising of tea will be again profitable to the growers the Oolong tea trade of the Amoy district will revive. Possibly the present low state of the industry may be beneficial in that if a revival comes it will enable those interested to insist upon the use of modern methods and labor-saving devices and the preparation of the leaf in accordance with scientific rules, instead of in the time-honored but very imperfect methods of the ancient Chinese. So long as the Chinese cling to their costly way of preparing the better grades of tea and to their careless and indifferent ways of preparing the cheaper grades, there need be no expectation of any great improvement. At the same time the Chinese, with present methods, can produce tea fully as cheaply as Indian teas can be produced, and in some cases with even less expense. With improvement in the methods of growing and preparing tea must come a more

modern system of disposing of the crop and stimulating the demand for it.

People interested in the Amoy tea trade are not oversanguine at the prospects, but they are better satisfied with them than they have been. The actual state of the business seems to be better understood and they seem to have more confidence than they have had. Whether this new confidence will result in an organized, systematic effort to develop the Chinese Oolong trade and to maintain the Formosan trade remains to be seen.

The prospects for a large Amoy trade this year are unusually bright, since the presence of the Baltic fleet of the Russian navy in the South China Sea at the opening of the tea season and the action of the Japanese Government in closing the port of Kilung, in Formosa, for war purposes practically shut off direct exportation from Formosa and will therefore force things into the old-time channels of Amoy. There is a possibility, of course, that the war will interfere with trade by way of Amoy, but this is not expected. The tea season so far has not been very satisfactory, owing to continued wet weather at a time when an abundance of sun is needed.

GEORGE E. ANDERSON, *Consul.*

AMOY, CHINA, *April 19, 1905.*

AUTOMOBILES IN AUSTRIA.

(From United States Vice and Deputy Consul-General Hoguc, Vienna, Austria.)

The automobile industry in Austria, especially in Vienna, has lately experienced a slight impetus by reason of the Fifth International Automobile Exposition held here from March 16 to March 29, under the auspices of the Austrian Automobile Club, which holds one exposition per annum and arranges one country race. The purpose was to further the trade in automobiles, motors, and motor cycles, not only for sport but as a means of transportation and use in industries generally. The manufacture of motor cycles has been called the only automobile industry of Austria. The exposition was international to the extent that a number of foreign automobiles were represented by local agents. An American firm and a French firm had one and the same agent. Three of the leading Austrian manufacturers were not represented. There were 85 exhibits, a considerable number of which were of accessories.

About the time the exhibition was held a bill was before the Austrian Parliament to regulate the use of automobiles, which bill, if passed in its original form, threatened to retard still more the slow progress of the industry. The manufacturers and dealers were aroused and agitated against what they claimed to be unnecessary requirements. Statistics were collected to show that the use of auto-

mobiles was not more dangerous, in fact was less dangerous, than most other means of transportation; that even dog carts and children's carriages had caused more accidents in Berlin than automobiles. A commission was appointed to hear the opinion of experts. In the belief that much of the adverse opinion was in consequence of inexperience, or perhaps prejudice, a trial was arranged, and twenty-four of the commissioners, accompanied by army experts and members of the general staff and the technical corps with military motor cars, rode about the city and into the country to study grades. The test seems to have been an instructive experience to many of the commissioners, since the manufacturers and dealers are satisfied that the industry is no longer menaced by any contemplated radical regulations.

While many business prospects in Europe designated as opportunities have been reported to the American newspapers for the benefit of business men, it is believed that in many cases this has been done without due consideration of difficulties, matters of expense, freight, duty, etc. Practical investigation has frequently shown that there are drawbacks or expenses which more than balance the disadvantages of lower prices at home. The automobile business in Austria does not offer inducements to Americans, considering the favor and sale of the machines at home. While Americans are buying automobiles much as they did family carriages years ago, comparatively few buy them in Austria. Until the purchasing capacity of the public is made use of and the American manufacturers have become so numerous and have so increased their output that it must be sold against sharp competition and at a small margin of profit the business here will not claim their particular attention. At the same time American makes will always be represented here through local dealers and agents. Only one automobile factory was built in Austria last year.

Tariff duties are as follows: Automobiles without leather and not upholstered, 25 gold florins ($12.05) each; automobiles upholstered or with leather work, 75 gold florins ($36.15). There is a further duty on the motor, according to weight, of 15 gold florins ($7.23) if it contains more than 50 per cent of base metals, and 8½ gold florins ($4.10) if it contains less than 50 per cent of base metals, or, according to treaty, 7.50 gold florins ($3.61) per 100 kilograms (220 pounds). Should it not be feasible to detach the motor to ascertain the weight the importers may produce a specification of the weight as a base for calculating the duty. Automobile parts pay the same duty as when mounted.

A new tariff bill now before the Austrian Parliament will presumably be passed within a year or two considerably changing the foregoing figures.

Each motor car must be provided with two independent brakes, the

lights must be placed so as to mark the utmost breadth of the vehicle, and plans and drawings must be submitted to the provincial government for approval.

ALVESTO S. HOGUE, *Vice-Consul General.*

VIENNA, AUSTRIA, *April 29, 1905.*

MISCELLANEOUS NOTES.

(From United States Consul-General Guenther, Frankfort, Germany.)

The Russian Government has authorized the produce exchanges of the Empire to appoint special boards or committees for inspecting and testing all grain offered for shipment at seaports. This measure was adopted at the solicitation of grain exporters in southern Russia who aim to prevent adulteration and fraudulent manipulations.

According to official statistics, 4,925 persons were killed in India by tigers and 1,996 by wolves during the last five years. Only 2 persons were killed by lions during that period, showing that the king of beasts is disappearing from that country. Lions are now to be found almost exclusively in the large forests, and the number is said not to exceed 200. The rajahs of such territory have reserved the hunting of lions to themselves as a princely sport, and natives as well as Europeans are expressly prohibited from molesting them.

The Zeitschrift für Nährungs und Genussmittel publishes the results of an investigation on dyes produced from coal tar, of which fifteen were found to be positively poisonous, the most dangerous being yellow and orange, which include aurantia, mandarin, metanil-orange, butter-yellow, etc. Next to the yellow and orange dyes in point of poisoning power come the blue, brown, and black tints; violet and green colors are less dangerous, excepting two. All are exceedingly dangerous if swallowed; otherwise they are generally harmless. Of the dyes used for coloring textiles, etc., only two have been found that are injurious to the human skin, viz, auramin-O (orange) and the ursol-D, both causing serious inflammation.

Professor Hartmann recently delivered a lecture on the mortality of infants before a meeting of physicians in Berlin. He stated that of the children born in 1902 in the several cities mentioned the following percentage died during the first year of life: Chemnitz, 28.3; Stettin, 24.5; Munich, 24; Nuremberg, 23; Breslau, 21.2; Strassburg, 21.4; Cologne, 21.3; Magdeburg, 20.9; Stuttgart, 20.8; Leipzig, 18.9; Berlin, 18.1; Düsseldorf, 17.6; Königsberg, 17; Dresden, 16.5; Hanover, 15.6; Hamburg, 14.3; Frankfort, 14.3; St. Petersburg, 35.9; Bukharest, 20.9; Rome, 19.4; Vienna, 18.3; New York, 18; London, 14.1; Brussels, 13.4; Paris, 11.3; Stockholm, 9.9.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *May 18, 1905.*

MALTA TRADE NOTES.

(From United States Consul Grout, Valetta, Malta.)

As a result of my various reports I am in receipt of catalogues and price lists of all kinds. Where possible, I have placed catalogues applicable to these islands in the hands of the best houses here, stating that further information as to prices, shipping facilities, etc., may be obtained at this office upon application. In consequence of the printed matter distributed I already know of several orders having been sent. One catalogue of machine tools arrived just in time for me to place it with a house that was making up a list of goods required for the coming year, and the order will be largely from it. Although limited results are being attained by this printed matter, I desire it to be understood by our merchants that personal visits of commercial travelers will cause tenfold more goods to be sold. With samples before him the buyer here knows better what he is to get, and often his order will be much larger than otherwise.

CARRIAGES.

My writings upon the subject of carriages have resulted in my receiving from all parts of the United States catalogues in this line. I have placed them where I thought they would do the most good, and already am receiving inquiries. Before another year I hope to see American carriages quite a common sight here. I am told there are several carriages for parties here on board the direct-line steamer due to arrive from New York to-day. I know of several orders in contemplation.

AMERICAN BEER.

In view of the proximity of Germany, England, France, and other countries, it seems somewhat strange that American beer should find a market in Malta, but I believe it has made a start. Some time ago a party here, about to open a large café, desired to secure the sole agency for an American brewery. I placed him in correspondence, and the result was that an experimental order was sent over. So well did the beer sell that the agent has just cabled a large order, so as to keep the beverage continually in stock. So popular did the American article become that the supply soon ran out, a thing which the seller does not intend shall occur again. I have been approached since by a firm of bottlers who desire to secure the agency of another brewery, their intention being to compete. I have placed them in correspondence with another American firm and, as competition is the life of trade, we may in course of time expect to see a reasonable quantity of our beers on the market here. Only bottled beer has as yet been imported. This is owing to the fact that facilities for returning "empties" to the

United States are very limited. A way may finally be found to surmount this obstacle. The beer most required here is the light table variety. At present it is hard to find. Malta, owing to the presence of a large fleet and garrison, consumes very large quantities of beer and ale, most of which is imported in barrels and is bottled here. Until now these liquors have all come from England, Germany, Italy, and Austria.

SUGGESTIONS TO EXPORTERS.

I continually find myself obliged to remind our merchants that the terms of payment most appreciated by the Maltese importer are f. o. b. at New York and cash against documents here. I have before me a letter from a manufacturing concern in the interior of the United States which reads: "The terms are f. o. b. cars at this point, cash, or thirty days on approved credit." However favorable the goods and prices may be, this requirement makes dealing with the concern almost prohibitive. The buyer here has some idea of what the freight from New York is going to cost him; he knows absolutely nothing of our railway freight charges, and rather than experiment he gives up all idea of dealing with that house, which, therefore, loses trade it might have received had it studied the conditions and requirements of the buyer in Malta and quoted terms f. o. b. at New York. To those interested in getting foreign trade I would say that Malta offers no field for steel furniture, lathing, agricultural implements, or windmills. There are very few machine shops here, but many hardware stores. There is a fair demand for oil paints and lubricating oils.

Recently several merchants have complained to me of the inattention given their letters by American houses. To-day the representative of a local house tells me that some time ago he wrote a western firm for some plants and sent a check with his letter. In return he received a portion of his order and for over two months has been waiting to receive a response acknowledging receipt of his check and giving the reason the remainder of his order was not sent. His ardor to deal in American goods has been somewhat dampened. Inasmuch as he desired to compete with German houses that are prompt in sending orders it will be seen that he was greatly handicapped.

If our merchants want to get a market here for their goods they must be prompt in attending to correspondence, for it takes at least a month to get an answer here, and terms should be made as suggested.

JOHN H. GROUT, *Consul.*

VALETTA, MALTA, *April 27, 1905.*

FOREIGN LINENS IN THE UNITED STATES.

(*From United States Consul Pike, Zittau, Germany.*)

In April, 1904, I reported on the depressed condition of the linen trade of this consular district with the United States. The reason given at that time for the depression was our prospective Presidential election. Now that the election is long past, and the depression is still more marked, I am convinced that high prices constitute the cause.

I have drawn attention to the rapid growth of the manufacture of linen in this district, which is now one of the most important linen-producing sections of the world. The following figures show the value of linen declared for export to the United States from the Zittau district for the years given: 1898, $522,961; 1900, $824,261; 1902, $943,608; 1903, $1,178,967; 1904, $1,013,548.

The first recorded decline in the history of the consulate in the declared value of exports to the United States was for the six months ended March 31, 1905, when they amounted to $647,473, covered by 604 invoices, against, $762,016, covered by 715 invoices, in the six months ended March 31, 1904, showing a decline of $114,543. The most important part of the export trade is in linen and union goods.

It may be interesting to draw attention to the value of linen imported into the United States, and whence it comes. The latest complete figures I have at hand are for the year ended June 30, 1903. The value of linens exported to the United States from all countries during that year amounted to $17,392,639, in which $2,355,944 represented handkerchiefs. Of this total the United Kingdom furnished $13,479,311 and Germany $2,023,660. While there are 51 consulates in the different countries at which linens are certified for shipment to the United States, fully $12,000,000 worth of the total ($17,392,639) is sent from the following consular districts, in the order of their importance in value of declared exports: Belfast, Ireland; Dundee and Dunfermline, Scotland; and Zittau, Germany. New York and Chicago were the ports of entry taking the greater bulk, their imports having values of $13,485,195 and $1,511,267, respectively.

WILLIAM J. PIKE, *Consul.*

ZITTAU, GERMANY, *May 9, 1905.*

BREWING AND DISTILLING IN JAPAN.

Under date of May 25, 1905, United States Consul-General W. R. Holloway, Halifax, Nova Scotia, transmits a copy of the following report from the Canadian commercial agent at Yokohama, Japan:

Distilling, as understood in Canada, is practically unknown in Japan. The only distilled liquor produced in that country is "shochu," distilled

from rice, just as the natural beverage "sake" is brewed from the same material. The production of "shochu" for 1902 amounted to 5,161,000 gallons, but it is rather difficult to ascertain the number of the distillers, as the liquor is generally manufactured by the "sake" brewers as a side line. Distilling is conducted in the old-fashioned style. No distillery of foreign spirits, such as whisky and brandy, has yet been started in Japan. In recent years the manufacture of spurious foreign spirits by the mixture of alcohol has prevailed, but owing to the imposition of a heavy import duty on alcohol the business has undergone a check.

In 1902 there were fifteen small manufactories of alcohol, the total output amounting to only 5,888 gallons. With regard to "sake" brewers, there are more than 20,000 in the country, and the consumption of "sake," from which the Government derives a large revenue, does not suffer diminution, despite the gradual increase of tax. The output of "sake" in 1902 was 160,433,258 gallons.

Until about fifteen years ago there were only one or two beer breweries in Japan, but in 1902 the number had increased to seven, with an aggregate paid-up capital of $2,182,000. The output of beer in 1902 totaled 3,614,526 gallons. The rapidity with which the consumption of beer has increased among the Japanese is really remarkable. At first all the breweries were getting their supplies of malt from abroad, but at present several breweries are making malt from Japanese barley.

FOREIGN CONSULATES AS INFORMATION BUREAUS.

(From United States Consul-General Guenther, Frankfort, Germany.)

The Roumanian consul in Saloniki, Turkey, has reported to his Government that commission merchants and merchandise brokers come to him asking information about Roumanian firms with whom they desire to form business connections. As the consul is not sufficiently posted, he suggests that a bureau of information be attached to the consulate, to which the Government and chambers of commerce of Roumania shall furnish full information. Such a system, the consul says, was established some time ago by the Italian consulates in the Orient, where inquirers are informed as to the credit, standing, capacity, etc., of Italian merchants and manufacturers. In order to facilitate communication, the Italian Government has authorized its consuls to correspond directly with chambers of commerce in Italy.

The Roumanian Government has submitted this proposal of its consul to the Roumanian chambers of commerce. The Bukharest Chamber of Commerce favors the proposal that the consulates be furnished with a list of Roumanian business firms and exporters, but objects to the consuls giving information about the credit, standing, etc., of such firms, as this is outside their official competency. Information of this kind must not rest on surmise, but on fact, and can best be obtained by applying to the mercantile information agencies at Bukharest.

A German trade paper, commenting upon this, says that in all countries there is a perceptible movement toward the utilization of consuls for obtaining foreign trade.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *May 9, 1905.*

RUBBER SHOES IN CHINA.

(From United States Consul Anderson, Amoy, China.)

While under the present system of noting imports it is impossible to ascertain the country of origin of most goods from abroad sold in China, except by their particular brands, it appears that Germany is supplying the Chinese at the present time with considerable in the way of rubber shoes and boots which ought to be supplied by the United States. The reason German goods have been preferred emphasizes what American consuls in China have been saying for years, viz, that the Chinese market must be studied if American trade in it is to be furthered. With ordinary Chinese dress it is impossible to wear rubber boots of the sort usually made in the United States. The Germans make a short half boot or elongated gaiter of light-weight rubber and line it lightly. These meet the Chinese requirements and are growing very popular. Some Chinese men are wearing ordinary American style "rubbers" in damp weather. All these goods are worn without other shoes or boots.

The field for American trade in such lines of goods is practically without limit, but special attention must be given to it. The case of the German rubber half boot is not the only one of the sort to be adduced.

GEORGE E. ANDERSON, *Consul.*

AMOY, CHINA, *April 13, 1905.*

MUNICIPAL GAS PROFITS IN LEEDS.

(From United States Consul Hamm, Hull, England.)

The results of the operation of the Leeds gas works by the corporation for the fiscal year ended March 31, 1905, have just been made public. They appear to prove that the management of the city lighting by the corporation has been as successful as the management of the street-car system is claimed to be.

The gross profit is stated to be $502,665. Of this sum interest on loans, etc., absorbs $225,725, leaving a net profit of $246,940, from which amount $146,205 for the redemption fund has to be deducted.

There is thus left a surplus profit of $100,735, the whole or greater part of which will, if precedent is followed, be applied in the relief of the rates.

This surplus profit is $42,960 less than in the previous fiscal year, accounted for, it is claimed, by the fall in the price of residuals, such as coke and tar. It was estimated at the beginning of the year that the gas committee would have $150,000 at their disposal at the end of the year, and that sum would have been exceeded by $10,000 if the selling prices of residuals of the previous year had ruled. On the basis of the prices of 1903–4 the income from residuals would have been about $20,000 more than they were.

It is interesting to know that these results have been produced under two political régimes, the conservative party having control of the gas works for seven months and the liberals having oversight of them for the remaining five months. Both parties seem to be interested in making municipal management of the gas works successful in Leeds.

WALTER C. HAMM, *Consul.*

HULL, ENGLAND, *May 20, 1905.*

EUROPEAN COAL MARKET.

(From United States Consul McNally, Liege, Belgium.)

The recent strike of miners in Belgium and Germany has materially increased the British coal exports, but the British exports to Belgium increased only 24,000 tons, which is accounted for by the large supply of coal on hand in Belgium at the commencement of the trouble. Over 100,000 miners were on strike in this country for a considerable time, and those in the Charleroi and Borinage districts were idle much longer. It is estimated that the coal supply in Belgium was at least 1,000,000 tons when the strike was ordered. A coal famine might have been feared had not some 60,000 miners remained at work. The French coal dealers profited considerably by the strike, and had their supply not been already reduced by shipments to Germany their export would have been larger to the Belgian market.

England found her most lucrative field in the Netherlands. In the first quarter in 1904 England shipped to that country 193,459 tons of coal, and in the first quarter of 1905, 843,346 tons. February registered the greatest increase, the total shipments in February, 1904, being 68,906 tons, against 483,745 tons in the corresponding month of 1905. The Westphalian mine owners have lately entered the field against the British dealers and have cut into their trade materially, having secured the contract for The Hague gas works and two-thirds of that for the works at Rotterdam. The British estimates of their

coal exports to Belgium, Germany, and the Netherlands for the first quarter of 1905 is 1,500,000 tons in excess of that for the first quarter of 1904. The export, however, to all countries shows an increase of only 500,000 tons, demonstrating that while the British dealers are improving their trade in the countries named there are decreased sales elsewhere.

JAMES C. MCNALLY, *Consul.*

LIEGE, BELGIUM, *May 2, 1905.*

MARKETING CANNED GOODS.

(From United States Consul Hamm, Hull, England.)

Attempts to place American goods on the foreign market often fail because local conditions are not studied and their full significance taken into consideration. This fact is strikingly illustrated in the effort to find a market for American canned food products. National habits, customs, and acquired tastes need to be closely examined and catered to. If they are not, loss follows, and what might have been a successful business venture comes to naught. A renewed effort is being made to enlarge the sale of canned food products in England, and if well directed it has good prospects of success. Considerable quantities of such goods are now sold and the market for them is constantly growing. To hold what has been gained, however, and to increase sales, energy and intelligence in directing the ventures are needed. The French are persistent competitors, and being near at hand and able to estimate the local situation better and quicker, they have advantages over rivals 3,000 miles away.

One error made by American exporters, and especially in canned goods, is to mistake quantity for quality. All European people with whom I have become acquainted have different ideas on this subject from Americans. The abundance in food products so prevalent in the United States does not rule here. Europeans have consequently become accustomed to smaller quantities and to greater care in the use and preparation of foods. This is especially true of the French. They are famous for the nicety and attractive character of their table preparations, and carry these traits into the preparation of canned foods, consequently often finding sales for them denied to American products.

Another mistake made by American exporters of canned foods is to try to force upon the market goods which national habits and tastes do not demand. Many exporters seem to imagine that if the American people like a certain article of food all other people must like it, and that if foreigners have not consumed the food heretofore the only thing necessary to get them to use it is to bring it to their attention. This is a wholly erroneous idea.

As an illustration, canned corn may be cited. The American people are accustomed to fresh sweet corn as a staple article of food every summer, and with a taste acquired in this way canned sweet corn follows as a natural necessity in the winter and spring. With the English, however, the situation is radically different. Corn is not raised here and only an infinitesimal minority of Englishmen have ever eaten fresh sweet corn. They accordingly have no acquired taste for it. To try to force canned sweet corn as an article of diet on such a people is a pure waste of money and energy. It will probably never succeed to any extent.

Still another mistake is the way in which American exporters of canned foods place their goods on the market. The attractive features which go so far in America to promote the sale of canned fruits and vegetables are often lacking. I have seen scores of store windows in Hull filled with displays of canned foods, but in all I have not seen twenty glass jars of preserved fruits or vegetables. They were almost invariably tin cans. A store window filled with a mass of tin cans with labels has nothing attractive about it. It does not please the eye or stimulate the taste, and it is simply so much dead weight. The inviting practice, so general in America, of displaying canned fruits and vegetables in glass jars where they can draw the attention of the public and promote sales is almost wholly neglected here. As a consequence many people know little or nothing about canned foods because attention has not been drawn to them by the eye. It is, of course, more costly to import preserved foods in glass jars than in tins. The freight charges and the risk of breakage are greater, but surely it would pay to import a supply sufficient for store-window displays and for advertising.

Fruits are nowhere nearly so abundant in England as in the United States. The home production here is comparatively limited. Large quantities of fresh fruits are imported, and the demand is constantly growing. France sends tons of grapes in season, Italy sends oranges, and America and Australia send apples. Canned fruits come almost wholly from France and the United States. The latter country has the greater abundance and the better class of fruits, and they need only to be placed before the public in the right way to command the market. But there must be intelligent discrimination shown or all efforts to reach the desired end will fail.

The English climate is damp and the range of the thermometer is limited. These meteorological conditions have produced a taste for a stronger diet than Americans are accustomed to. Natural conditions can not be changed, but adaptations can be made in catering to appetites so produced, and they must be if a profitable business is to be built up. The peach can not be grown to any extent on account of the cool, moist climate. No such tomatoes can be produced here as

are common in America; the reason is that there is not the abundance of sunlight and the hot days necessary to dissolve their acids. The few peaches grown are tasteless and the native tomatoes are acrid. There is a market for both these foods in this part of England. It is true they can not be carried far in a fresh state, and the distance from here to America may make their sale prohibitive under present conditions. But both can be preserved, and if presented rightly to the public they ought to meet a ready sale.

WALTER C. HAMM, *Consul.*

HULL, ENGLAND, *May 25, 1905.*

BUSINESS OPPORTUNITIES ABROAD.

(From United States Consul-General Guenther, Frankfort, Germany.)

Argentina.—The Dirección General de Vías, Buenos Aires, will expend $134,000 for bridge building in Formosa, Argentina.

Austria-Hungary.—The municipality of Kronenburg, Austria, invites bids for the erection of an electric lighting plant.

The city of Reichenberg, Bohemia, will have a large electric plant constructed for lighting purposes.

Bulgaria.—The Bulgarian Government advertises for bids to construct two railroad lines: (1) Timowo-Trevna-Bornschitza, (2) Radomir to Kostendil, Turkish frontier.

Chile.—The German consul-general at Valparaiso calls the attention of German promoters and contractors to the opportunities offered in Chile and Argentina by the contemplated construction of railroad lines in the Patagonian cattle-ranch districts and for opening communication with the ports on the Pacific coast.

Colombia.—The British consul at Santa Marta calls attention to the new railroad which is to be constructed from that town to the Magdalena River.

Egypt.—The Direction du Secrétariat of the Egyptian ministry of finance will receive bids for supplying paper and envelope requirements of the governmental departments for the next three years.

England.—The urban district council of Gorton, Lancashire, has been authorized to construct electric tramways.

Germany.—The city of Cologne purposes the erection of new hospitals and the reconstruction and refitting of those in use at present. The total cost is estimated at $1,390,400.

The municipalities of Frankfort and Offenbach have entered into an agreement for the construction of a double-track electric railroad between the two cities; it is also projected to build an electric railway from Frankfort to Homburg, 12 miles, and eventually extend the line to Höchst.

Large blast furnaces are to be erected at Lübeck to make iron from Swedish and other imported ores. The low water freights encourage the erection of blast furnaces at German seaports.

Honduras.—Automobiles are to be purchased to be put in service on the national pike now under construction by the Government between Tegucigalpa and the Pacific coast.

Italy.—An electric tramway line is to be built from Avellino to Baja. Apply to the municipal authorities of these towns.

The commission appointed by the Italian Government has submitted plans for the improvement of navigation on the river Po and auxiliary water courses. The estimated cost of the improvements is $23,600,000. The committee calculates that 48,500 horsepower energy will be developed along the Po, which could be used for industrial enterprises, the annual rent of which would yield $300,000 to the Government.

Netherlands.—The municipality of Nymwegen will purchase iron pipes for the extension of its water mains.

Ridderkirk, south Holland, is preparing to build waterworks.

The ministry of the Dutch colonies at The Hague invites bids for furnishing materials for railroad cars.

The Nordnederlandsch Spoorweg Comite at Groningen will give information concerning a railroad to run from that city to Rolde.

The city of Utrecht is constructing new lines of electric tramways.

Portugal.—The Companhia Carris de Lisboa, of Lisbon, has been authorized to construct additional electric tramway lines.

The Portuguese Government will build a railroad from the port of Mossamedes to Chella in its West African colony; estimated cost, $1,125,000.

Spain.—The municipality of Tarrasa will receive bids for the construction of a market hall to cost $63,000.

The Dirección General de Obras Públicas, Madrid, has authorized Hermenegilde Gorria to use the Rio Segre for producing electric energy to run tramways at Lerida-Puigcerda and vicinity.

The Junta de Obras del Puerto, Almeria, will receive bids for supplying dredging machinery.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *May 12, 1905.*

IRISH INDUSTRIES.

(From United States Consul Moe, Dublin, Ireland.)

Apropos of the determined effort in Ireland to revive its former industries and create new ones, a prominent Dublin newspaper publishes the following:

The Irish Manufacturers' Directory has just been published and shows a marked improvement as compared with the previous volumes.

It also furnishes a proof that more Irish tradesmen are coming to realize the part advertising must play in commercial life, for in several classes of producers there is an increase in the number of firms which have had their names inserted. There are some new industries, however, that have not, so far, availed themselves of this Directory's help, and a few firms have neglected to send in their names again this year, a circumstance to be regretted, because this book is usually purchased by people who are interested in the industrial revival, and who depend upon the Directory for industrial information.

The Directory gives a list of the various manufacturers and the nature of their products, and should be valuable for American manufacturers and buyers, especially such of our importers as are seeking novel articles of real Irish manufacture. Note is made of a firm in Dublin supplying Irish-made breakfast, dinner, and toilet services that are very tastefully decorated and have a shamrock design which should appeal to all Irishmen in the United States for its beauty and sentiment. Irish pottery of beautiful design is also noted. The directory will be useful to those who desire to know what is made in this country. I shall be glad to assist our importers and manufacturers in obtaining a better knowledge of manufactories and firms in Ireland for trade purposes.

ALFRED K. MOE, *Consul.*

DUBLIN, IRELAND, *May 22, 1905.*

DUTCH FOREIGN INVESTMENTS.

(From United States Consul-General Guenther, Frankfort, Germany.)

The people of the Netherlands are thrifty and economical, excellent merchants, and, in proportion to population, their nation is one of the richest in the world. They are cosmopolitan, and large minded in the investment of their capital. They were the first and most extensive foreign buyers of United States bonds of 1861–65, but did not touch the Confederate issues. According to estimates of official statistical and financial sources, Dutch capital to the amount of $544,500,000 is invested in American bonds and shares, and $400,000,000 in Russian bonds and shares. Very large sums of Dutch capital are invested in Mexican Government bonds and in bonds and shares of Mexican railroad and industrial companies; also in the Government and railroad bonds of Austria-Hungary, Portugal, and numerous other countries, and a large amount is working profitably in the Dutch Indian colonies in sugar, tobacco, and rubber plantations, the mining of tin and other metals, petroleum wells, etc. A financial book of reference places the capital of all Dutch joint stock companies at $744,164,000, but this does not embrace the numerous Dutch companies which have their headquarters in the colonies and in foreign countries. The Netherlands, possessing neither coal nor iron, is not a manufacturing country of note, and in this respect is even surpassed by little Switzerland, also

having neither coal nor iron. The Dutch are full of the commercial spirit and have a large merchant marine. The rural inhabitants are given to dairying, cattle raising, and horticulture, in which branches they excel.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *May 16, 1905.*

GERMAN AND JAPANESE BRUSH INDUSTRY.

(From United States Commercial Agent Harris, Eibenstock, Germany.

During the past few years it can not be said that the brush industry in Germany has prospered, owing to the high cost of the necessary raw materials imported from foreign countries. At present the factories are kept busy and have booked sufficient orders to keep them running for the rest of the year.

The war in the Far East has exercised an important influence upon the German brush trade with the United States. Until the outbreak of the war American importers purchased more brushes in Japan than in Germany. The center of the brush industry in Saxony is Schönheide, in this consular district. In the manufacture of brushes this little town, with its 8,000 inhabitants, is to the German Empire what the city of Osaka is to Japan. Before the war the Japanese industry was very prosperous, and about 1,000 laborers were employed in Osaka alone. The daily production amounted to about 16,000 pieces, consisting of tooth, nail, and hair brushes. Apart from Osaka the manufacture of brushes has taken root in the surrounding country and has developed into a sort of a house industry, in which girls, particularly, are employed. In 1903 $229,646 worth of tooth brushes and $64,700 worth of various other kind of brushes were exported from Japan to foreign countries, 80 per cent going to the United States. During 1903 Japan imported about $100,000 worth of hog bristles from the United States.

The exports of brushes from this consular district to the United States in the fiscal years 1900, 1901, 1902, 1903, and 1904 were valued at $11,663, $14,063, $2,899, $5,200, and $14,365, respectively. Inasmuch as large quantities of brushes are sold to commission houses in the larger cities of Germany and France, especially Paris, these statistics do not give a correct idea of the exact amount made in Schönheide which find their way to the United States. Manufacturers here claim that the war is enabling them to regain the ground lost to Japanese competition during the past few years, and the figures given would corroborate this belief to the extent that the exports to the United States are now what they were three years ago.

ERNEST L. HARRIS, *Commercial Agent.*

EIBENSTOCK, GERMANY, *May 17, 1905.*

FOREIGN TRADE NOTES.

(*From United States Consul-General Guenther, Frankfort, Germany.*)

Asia Minor.—The Belgian consul at Bagdad reports that rich petroleum deposits have been discovered near Kerkuk and Samarra, also coal near Mendeli. British, Australian, and German prospectors are already engaged in boring wells. These enterprises, however, are impeded by the numerous hordes of robbers infesting Mesopotamia.

Austria.—The municipalities of Nenzig and of Nueziders, in the province of Vorarlberg, project the erection of electric plants.

Belgium.—Belgium has entered into a convention with Germany for the construction of an electric railroad from Aix la Chapelle to Louvain. This line is to open a new connection with Brussels.

Chile.—The British consul reports that the town of Ovalle projects the installation of gas lighting.

Dutch Indies.—The counsellor at law Schontendorp, Batavia, Java, has received a concession for erecting a central power station for electric works in Soerabaya.

The Deli-Spoorwegmaatschappy at Amsterdam plans the building of a steam railroad from Deli Atjeh to Langsar Bai, in Sumatra.

Germany.—The town of Offenburg, Baden, will spend $476,000 for public improvements.

The city council of Cologne has voted $2,586,000 for suburban railroads and canal and harbor improvements.

A syndicate of Hamburg banks is organizing a fishery company at Cuxhaven, with a capital of $714,000. The company will have ten steamers built for fishing purposes.

The Deutsche Bank of Berlin is reported as establishing an industrial and exporting company in Sofia, Bulgaria, for the promotion of trade between Bulgaria and Germany. The new company projects the building of two petroleum refineries.

A meeting of German manufacturers of silverware took place recently at Frankfort, for the purpose of establishing a national league to promote their trade interests. So far, forty leading silverware manufacturing firms have joined.

Italy.—The provincial authorities of Venice will build a steam railroad line from Mestre, via Castelfranco and Bassano, to the Austrian frontier. Apply to the Sindaco di Venezia, Venice.

Netherlands.—An electric railroad will be built from Amsterdam to Zaandam and Koog. Apply to the Gemeentebestuur at Zaandam.

Paraguay.—Asuncion, the capital of Paraguay, is to have a sewerage system and other sanitary improvements.

Servia.—The Government of Servia is planning the construction of harbor works at Radujevac and the building of a bridge over the Danube.

The Kingdom of Servia has negotiated a loan for $22,000,000, of which $8,600,000 are to be expended on new rapid-fire guns and ammunition and $6,000,000 for construction of new railroad lines.

Spain.—The Direccion General de Correos y Telegrafos at Madrid invites bids on furnishing 50 tons of telegraphic wire, the iron wire not to cost over $116 per ton and that of bronze to be under $690 in price per ton of 2,204 pounds.

The Sociedad Tranvias del Este de Madrid has been authorized to construct a new electric tramway line in Madrid.

Turkey.—German papers state that the Turkish Government has rescinded the order which forbade the entry of any goods having a design, mark, or label representing a star or crescent.

Acreage of sugar beets in Europe.—According to latest investigation the European area planted in sugar beets covers 3,657,156 acres, exceeding last year's acreage by 17.2 per cent.

Shipbuilding in Europe and the United States.—The secretary of the British Admiralty has made a compilation of the tonnage and the cost of newly constructed ships in England, France, Germany, United States, and Russia. According to this compilation the tonnage and cost of ships built within the last five years in the respective countries was as follows:

Country.	Tonnage.	Cost.
Great Britain	601,755	$283,560,515
France	178,382	87,869,075
Germany	193,561	94,153,520
United States	154,184	73,319,085
Russia	267,586	119,179,460

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *May 16, 1905.*

BRITISH PROFIT SHARING.

(From United States Consul Mahin, Nottingham, England.)

An interesting case of profit sharing is reported from a woolen manufacturing firm at Batley, Yorkshire. For the past ten years a considerable dividend on the capital and a bonus on the labor employed have been paid, but last year made a new record, 14 per cent dividend and 10 per cent bonus. It has apparently taken much hard work and persistence to develop and carry on the scheme. When first proposed it was ridiculed by the workmen and by other manufacturers, but the firm insisted that it was based on sound business principles and was certain to succeed if prudently managed, and the outcome has sustained their contention. Not only have dividends and bonuses been

paid annually, but the firm's mills and output have been much enlarged and the business has been expanded in other directions.

A balance sheet is prepared every year. Capital has the first claim on profits, and labor's percentage in them is paid in shares in the company, the employee becoming a stockholder and participating in both dividend and bonus. If a workman earned $500 during 1904, he received $50 in shares, the labor bonus for that year being 10 per cent. This year he draws in money the dividend on these shares and receives additional shares representing the bonus on his labor. With such tangible financial results, and the knowledge that effective and diligent labor will continue and may enhance them, it is inevitable that intelligence and application on the workman's part will be materially increased.

FRANK W. MAHIN, *Consul.*

NOTTINGHAM, ENGLAND, *May 20, 1905.*

GROWTH OF GERMANY'S FOREIGN TRADE.

(From United States Consul Winter, Annaberg, Germany.)

In its observations regarding the German outlook in connection with the prospective international trade treaties, Export, published in Berlin, gives a review of the growth of the foreign commerce of the Empire, from which I translate the following abstract:

The kind of goods imported into Germany depends upon the demand for foreign food stuffs and raw materials for manufacturers. If one observes the development of German foreign trade for the last twenty years, a marked increase in the totals of its imports and exports will be noted, but these increases are due to a great extent to imports of raw materials for manufacture and to exports of industrial products.

The imports of raw materials have risen from 39 to 47 per cent, while the imports of manufactures have fallen from 28 to 20 per cent. This is certainly a very healthy development, and shows that the relative falling off in imports of manufactured articles is due to the effect of Germany's industrial protective tariff.

The new customs tariff will perhaps hasten this falling off in imports of manufactured goods, yet it will be difficult to effect any great changes in this respect. One must not lose sight of the fact that a large part of Germany's imports of "manufactured articles" consists of half-manufactured goods, which are afterwards finished by German workmen. The imports of foods and luxuries show an absolute and large increase. Their relation to the total imports is, however, the same as it was ten or twenty years ago.

Exports of manufactures have increased from 60 to 66 per cent; exports of raw materials, coal, etc., have increased from 19 to 24 per cent, while exports of foodstuffs show a decrease from 21 to 10 per cent.

If exports are compared with imports it will be noticed that nearly one-half of the imports in 1903 were raw materials, while two-thirds

of the exports consisted of manufactured articles. Imports of raw materials in 1903 were valued at $676,634,000 and exports of manufactures at $780,878,000.

An interesting example of the position occupied in exports of manufactures and imports of raw materials is that of cotton, which holds first place among imports of raw materials, and cotton fabrics, which hold first place among exports of manufactures. Not less than 11 per cent of the total imports of raw materials consists of raw cotton, while in exports 14 to 15 per cent stand for cotton and woolen goods.

At present only a small part of Germany's trade is regulated by trade treaties, namely, that with Austria-Hungary, Italy, Switzerland, Belgium, Russia, Roumania, and Servia. These countries take about one-third of Germany's total exports, and in return Germany receives therefrom about one-third of their exports. Russia and Austria are of necessity bound to export to German markets and must buy a good many German products.

A very important part of Germany's foreign trade must be regulated even after the tariff treaties have been concluded with the States above named, viz, her trade with the British Empire and the United States.

Great Britain and the British colonies in 1903 sent to Germany 22 per cent of her imports and took 24 per cent of Germany's exports. The United States sent to Germany, in the same year, 15 per cent of Germany's imports and took 9 per cent of her exports in return. This part of Germany's foreign trade—about one-third—is awaiting treaty regulations, since it is only provisionally regulated at present.

JNO. F. WINTER, *Consul.*

ANNABERG, GERMANY, *May 11, 1905.*

SMOKE NUISANCE IN GERMANY.

(From United States Consul-General Guenther, Frankfort, Germany.)

For several years past the State governments of Germany have given attention to the smoke nuisance. The stoppage of the chief source of excessive smoke by training firemen to be more expert and careful has been tried recently, and the formation of smoke can be reduced in this way to a great degree. The proper construction and management of steam boilers and the prevention of explosions has received careful attention through police regulations and continued examinations by offical experts. The daily care of boilers, however, has been very often intrusted to ignorant firemen, as the instruction instituted by a few industrial associations has not been adequate and the owners of steam plants frequently failed to show sufficient interest in the thorough teaching of their firemen. For the purpose of supplying a remedy the ministry of commerce and trade three years ago instituted "traveling courses of instruction for firemen," by which more than 500 men have been taught.

The instruction is given in fourteen-day courses, and comprises

theoretical and practical instruction by an academically trained engineer and a competent fireman. Its object is not only the prevention of smoke, but a safe and economical treatment of steam boilers, so that not only the public interest but that of the owners of boilers is taken into account. These continued courses are given wherever a sufficient attendance can be expected. The State bears a part of the expenses and from time to time sends out expert firemen to visit steam plants in order to watch the boiler attendants, call their attention to mistakes or defects, and give them practical instruction with reference to firing and safety appliances. Only when the services of the expert are desired for several days does a fee have to be paid. The interest shown in the instruction is constantly increasing and its value, based upon the results obtained, is more and more appreciated.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *May 20, 1905.*

TRANSPORTATION OF CHINESE COOLIES TO FORMOSA.

(From United States Consul Anderson, Amoy, China.)

There is considerable complaint in and about Amoy relative to the course of the Japanese authorities in connection with the cooly traffic with Formosa during the tea-picking season. From the time of the first development of the Formosa Oolong tea industry it has been the custom for Chinese laborers from the Amoy district to go to Formosa for the tea season and secure employment at good wages. Up to a few years ago there were upward of 20,000 coolies from this district making the trip each year. The steamship companies charged them from $3 to $4 local currency (about $1.50 to $2 gold) each for the trip, and inasmuch as the expense of handling them was almost nothing the carrying trade was much sought after by all companies.

When the Japanese took charge of Formosa and became established, however, there commenced a series of regulations designed to secure as much trade for the Japanese and as much labor for Japanese coolies as possible. Among other things the Chinese going to Formosa were required to have a passport viséed by the Japanese consuls. As a development of this it seems that those concerned have inaugurated the plan of selling the passport or visé and passage ticket at the same time, thus compelling the Chinese to take passage in the Japanese line of steamships supported by subsidies from the Japanese Government. A charge of $9 local currency ($4.50) is made for the passport and passage and the number of Chinese going to Formosa has been reduced to less than 6,000 a year, 5,797 going and 6,740 returning in 1903 and about the same number going and returning in 1904. British trade has been cut into by the present arrangement more than that of any

other nation and the British authorities have taken the matter up with a view of securing something in the nature of an open-door arrangement, at least so far as the shipping trade is concerned.

GEORGE E. ANDERSON, *Consul.*

AMOY, CHINA, *April 20, 1905.*

INTERNATIONAL COMMERCIAL UNION IN CONSTANTINOPLE.

(From United States Consul-General Dickinson, Constantinople, Turkey.)

I beg to advise the Department of an attempt to form an international union of commercial delegates, which promises to succeed, where individual effort has hitherto failed. Some years ago, when a direct steamship line was being started to call at this port, the Levant generally, and New York, I was struck with the many difficulties, not all intentional, perhaps, preventing the expansion of trade in Turkey. With the hope of reducing these to a minimum through joint action of all the consuls in Constantinople, I consulted some of my colleagues and proposed that regular meetings of the various foreign consuls be held to discuss conditions and to try to obtain relief by acting together in all matters of mutual interest. For reasons not necessary to give, that movement failed of any practical results.

It has remained for the president of the French Chamber of Commerce, Mr. Ernest Giraud, a commercial statistician of European prominence, to carry out my suggestion and to form a permanent foreign union of commercial delegates, to which union the vice-consul, Mr. Smith-Lyte, was appointed by me as one of our representatives.

As expressing the objects of the union, I quote from Mr. Giraud's opening speech at the first meeting, February 2, 1905:

Gentlemen, our meeting to-day differs essentially from previous foreign commercial meetings held at various times. We are here with a distinct object in view--to form on a stable basis a union able to combine the interests of foreign commerce, which are identical. Closely united, the delegates composing this union can render great service to commerce, not only foreign, but also Ottoman, by defending commercial rights and improving the existing conditions. * * * It is indispensable to set forth the aim of our permanent union in order to dispel from the start any misapprehensions, and I do so, feeling certain that I express the feelings of the meeting. We do not meet for the sole purpose of "airing our grievances," but with the formal intention to use all our efforts to render the commerce of this capital more flourishing, and thus to contribute to the prosperity of an Empire in which we enjoy a large hospitality. It is a fact, requiring no proofs, that commerce is the great source of riches of every country when given liberty to expand without restrictions and protected by just laws. * * *

Anything resembling concerted action in this country has an immediate effect upon the Turkish mind. It was reported at this first meeting of the delegates of foreign commerce that its object having been made known to the Sultan he had named a commission, composed of three high functionaries of state, to study the question of "Analysis in the custom-house," one of the subjects set forth in the notice calling the meeting.

To keep the Department of Commerce and Labor informed of the action of this commercial union, and in accordance with the resolution of the delegates to give the widest publicity to the steps which should be taken to remove obstructions to commerce in this Empire, I forward the reports of the meetings[a] and inclose copy of one of my dispatches to the legation, dated March 28, which gives in substance the particular features of the customs administration which the consular body hope to have removed. Other features which tend to impede the progress of commerce will be taken up as soon as those now under consideration are disposed of.

CHAS. M. DICKINSON, *Consul-General.*

CONSTANTINOPLE, TURKEY, *April 25, 1905.*

TRADE HINDRANCES IN THE CONSTANTINOPLE CUSTOMS.

(United States Consul-General Dickinson to United States Minister Leishman.)

Referring to my No. 1130, of March 13, informing you of the formation of a Permanent Union of Delegates of Foreign Commerce, I beg to inclose the reports of the last general meeting entitled "Customs operations" and "Free access on shipboard."

The resolutions embodied in these reports were unanimously approved by the delegates, and I beg to suggest joint action with your colleagues to whom identical notes are being addressed on the subject by the German, British, Austro-Hungarian, Belgian, French, Hellenic, Netherland, Italian, Roumanian, and Russian delegates. The report on customs operations is the one most affecting American trade, and contains facts which in themselves are sufficient to ruin or make business impossible in articles of low cost which can not bear heavy charges.

I will enumerate a few instances of the most glaring injustices which will be brought by the delegates of the union to the attention of their respective Governments in the hope that in united action reform may be accomplished.

Owing to the lack of method in stowing away goods when the arrivals are more extensive than the average, the warehouses can no

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[a] Filed in the Bureau of Statistics, Department of Commerce and Labor.

longer accommodate the merchandise and it may remain for days either on the quays or in lighters. If held in lighters there is necessarily very heavy expense to the importer. In the meanwhile, the merchant who may require his goods, owing to this congestion often loses his sale besides having to bear the extra charges and run the risk of deterioration. He may also be charged storage, under certain conditions at once, and under one exceptional condition explained later even before the goods are actually discharged. Under ordinary conditions storage is charged after seven days.

This congestion, when several steamers arrive at once, is partly due to ignorance by the custom-house porters of the first elements of stowage and their lack of intelligence to distinguish or classify parcels bearing the same marks, but this congestion is also due, in a measure, to the few hours devoted to business by the entire staff of the customs administration. No functionary, whether storekeeper, appraiser, or clerk, is ever at his post before 10 o'clock a. m. At a quarter past midday there is an hour and a quarter's rest (paidos) for lunch and in winter the day ends at 3.30 p. m. (11 o'clock Turkish) making in all, under the most favorable circumstances, four and a quarter hours a day, which is entirely insufficient considering the limited number of employees.

Again, the appraising room (salle de verification) is small, the number of appraisers is insufficient, and merchants may wait for several days before their turn arrives. It is suggested in case of rush of business this appraisement might take place on the quays or at the depots, and avoid the necessity of taking merchandise to and from a particular room, which consumes time and causes confusion.

The exceptional conditions under which storage fees may commence before the goods are actually discharged are as follows: When a ship discharges at the Galata quays, the customs authorities on this side of the port insist that storage is due from the day upon which the ship's manifest is deposited. Now it may be, and such cases are not rare, that the goods may not be discharged until eight days after this date, and as shown, owing to congestion, these same goods may remain on the quay for five days or even more before being received into the customs warehouses, consequently merchandise may become liable to thirteen or more days' storage before it even reaches the store. It should also be noted that for each seven days or portion of seven days the rate of storage is double the charge for the previous seven days. It seems to me that storage should be chargeable only when merchandise actually enters the warehouse.

Another grievance is the present system of "tips," which has become an almost unbearable imposition. * * * These gratuities are a heavy burden, especially on small shipments or parcels post packets.

Another cause of complaint is the present indiscriminate weighing

at the cost of the importer. Merchandise on which duty is paid per piece, pair, barrel (in the case of cement and nails, etc.), case, measure, dozen, etc., all have to be weighed. In all the above cases the goods are weighed simply to estimate the storage should the goods remain in store more than the seven days of grace, and the service is one in the interest of the custom-house and should therefore be gratuitous.

At the present time (March, 1905) it requires five days to clear a parcel arriving by parcels post, and the greater the haste of the receiver, in view of the insignificant value of the article, to avoid loss of time the larger become the tips demanded, which often double, triple, and even quadruple the legal duty.

CHAS. M. DICKINSON, *Consul-General.*

CONSTANTINOPLE, TURKEY, *March 28, 1905.*

CONDITION OF THE MEXICAN WHEAT CROP.

Under date of May 30, 1905, United States Consul-General James Russell Parsons, jr., Mexico City, transmits the following from the Mexican Herald of even date:

Statements emanating from competent authorities were to the effect that, on account of late frosts and of the ravages of the "chahuitzle" disease, the wheat crop, which earlier in the year gave fine promise, is now proving—at least in the Bajio district, the chief grain belt of the Republic—to be below the average. From other sources, however, have come affirmations to the effect that the crop will be a good one, and that the machinations of speculators have had something to do with the present rise of prices.

PRICE ABNORMALLY HIGH.

Apart from this, the one fact is incontestible that the price of wheat, both of last year's crop and of June futures, is abnormally high. Firsts of flour are also as much as 15 per cent higher than at this time last year.

The Federal Government authorities have undertaken an investigation of the matter. The department of finance has given it special attention, and it is understood that Minister Limantour has recently had a number of conferences with prominent hacendados, millers, and bakery owners for the purpose of reaching definite conclusions on the subject.

DUTY MAY BE SUPPRESSED.

It is further understood that as a result of these conferences there is every probability that the import duty on wheat will be reduced, or even altogether suppressed, so as to allow of wheat from the United States being introduced to alleviate the situation created by the rise in prices in this Republic.

The freight on American wheat always offers a serious problem in a case of this kind, and might tend to nullify the advantages otherwise offered by the reduction or suppression of the duty. On this account it is learned that in case of necessity the Government will enter into arrangements with the National and Central railroads to have the freight tariff on wheat reduced in the same measure as when the duty was last removed for a like purpose.

GERMAN AND AMERICAN TRADE RELATIONS.

(From United States Consul-General Guenther, Frankfort, Germany.)

I translate the following passages from an editorial on the "German policy regarding foreign trade" in one of the most prominent journals representing German manufacturing and exporting interests:

It is only ten months until our new tariff law will go into effect, and we do not yet know what our trade relations with the United States will be. Our present commercial convention with that country will have to cease on March 1, 1906, when our new treaties with other countries become operative. What then? Will our new general tariff be applied to importations from the United States, and with what measure will the latter retort? Shall one risk taking orders which are to be filled after March 1 next?

In spite of the extreme high tariff of the United States and the vexations of its customs requirements, our exports thereto have again considerably increased in the past year. Next to Great Britain and Austria-Hungary the United States is our best customer. Should we jeopardize our relations with such a customer by precipitous decision?

True, Germany's export trade has good cause for complaint against the trade system of the United States, yet the differences must be adjusted in such a way as to make possible a further prosperous development of our business connection. This admitted, it is particularly necessary at this juncture to declare freely and clearly that a tariff war is not a suitable mode of adjustment.

In thick volumes, where statistical figures are amassed, it is attempted to show that Germany need not fear a tariff war with the United States, and that it can take the risks complacently as all chances for victory are on the German side. But it is not worth while for the German exporter to critically examine these long-winded arguments. He has only to ask himself this simple question: "Is there such a thing as a victorious tariff war?" Every such contest is a serious injury to business, regardless of how it terminates, and produces a loss much greater than the evil meant to be eradicated. It is erroneous to believe that after the contest is over and normal tariff relations are resumed business will again run in its former course. The practical business man knows such will not be the case. Our competitors will hail it as a happy event when our goods are met by differential duties, and they will use this opportunity for their profit. The supply sources will be changed, new business connections will be formed, and the old ones turned aside. Our place will be occupied by our competitors and they will retain it even after the discriminating duties are done away with.

Where then is the fruit of an alleged victory when it can not alter the condition? Woe to the merchant who has allowed himself to be deceived by the prospects of gaining by theories of this sort.

Our tariff war with Canada ought to open the dullest eyes. Last year our exports thereto were but $5,497,800, against $9,234,400 in 1903. Even this strongly diminished export has been attained by great sacrifices made by our export firms to prevent the utter loss of business connection with Canada. But how long can this be maintained? Many firms to-day reckon upon the loss of their entire trade with Canada.

For that reason let us not join the tariff-war instigators who ought to excite our suspicion because they come chiefly from the Agrarian camp. The Agrarians only want to throw dust into our eyes by their feigned indignation over the lack of reciprocity on the part of the United States. Their real aim is to exclude American grain from the German markets by refusing the "most-favored-nation clause" to the United States and to Argentina. We have before this pointed to the splendid advance of our export trade to Argentina, which shows the importance of that market to us. What shape will our relations with that important country take in the future? Here, too, the tariff-war instigators are at work, sowing their pernicious seed. Here, too, the exporters must publicly and loudly cry out that only an amicable arrangement must be had, rejecting all tariff-war experiments.

The foregoing expression may be regarded as being the view of the large majority of the manufacturers and commercial people of Germany. Germany can only lose if trade relations with the United States are disturbed. In case of a tariff war many of her manufacturers, exporters, shipping lines, etc., would suffer severely, and some would fail or have to liquidate. Thousands of German workmen and their families would suffer. Our exports to Germany consist chiefly of food stuffs and raw materials which Germany can not well dispense with, whereas we can easily find other purchasers for our staple products not consumed in Germany.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *May 6, 1905.*

CANADIAN CUSTOMS DECISIONS.

(From United States Consul-General Holloway, Halifax, Nova Scotia.)

Decisions have been promulgated by the board of customs that the articles named are dutiable at the given rates unless otherwise noted.

Chilean mills for grinding clay or other substances, whether for use in connection with steel converters or otherwise, 25 per cent.

Zinc, in form of rods, 25 per cent.

Kremoline (as per sample), used in the manufacture of confectionery, 25 per cent.

Tram silk, "boiled off," and not in the gum, 20 per cent.

Mimeographs (rotary and oscillating), 25 per cent.

Pictorial cut-outs, being lithographed pictures on cardboards, embossed or not, and cut out by stamp or die or not, 20 per cent.

Refined cocoanut oil, not further manufactured than bleached or refined, 20 per cent.

Blotting-paper pad with celluloid cover, having advertisement thereon, but not illustrated, 35 per cent.

Stereotyping outfits, such as casting mold, cutting-off cylinder, and imposing press, imported along with printing press, valued at over $1,500, 10 per cent.

Electric motor and rheostat for use in connection with a printing press, 25 per cent.

Keystone rig and equipment for drilling wells, 25 per cent.

Pooer's combined boring and drilling machine for drilling wells, 25 per cent.

Microscopes, valued at not less than $100, adapted for and to be used in good faith for purposes of surgery, free as surgical instruments.

Soldering flux, in a fluid state (made from an acid and zinc), 20 per cent.

Lithographic presses, 10 per cent.

W. R. HOLLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *May 23, 1905.*

ELECTRIC LIGHTING IN OTTAWA, CANADA.

(From United States Consul-General Foster, Ottawa, Canada.)

On May 18 the citizens of Ottawa approved the following resolution which had been moved in the municipal council on March 31:

Whereas franchises have been given to different stock companies to operate electric lighting plants by the corporation of Ottawa;

And whereas such franchises were given largely with the view of securing competition in the supply of light and power and to prevent monopoly in such supply;

And whereas applications having been made to the Dominion Parliament by the Ottawa Electric Company for an act giving it power to acquire the stock of the other competing companies, and thus secure a monopoly of such business with a resultant large increase in the rates now paid by householders and business men for their supply of light and power;

And whereas, under the contract entered into between the corporation and the Consumers' Electric Company, it is provided that, "At any time during the said period of twenty-three years the corporation of the city of Ottawa shall have the right to acquire all the property of the said company, both real and personal, and as well without as within the city of Ottawa, including its water power and power house or houses which may then be owned by and be in use by the said company in

connection with its business of supplying electricity for power, light, and heat in the said city of Ottawa, at its actual value without any allowance being made in such event for the unexpired portion of the company's franchise, which, in the event of such purchase being consummated, is to become forfeited, the said value to be determined in the event of failure to agree by arbitration in the same manner as is prescribed for the arbitration provided in clause 10 hereof:"

Resolved, That notice be given the Consumers' Electric Company that it is the intention of the corporation to take steps to avail itself of this clause, and that the matter of providing money to purchase the plant, etc., of the Consumers' Electric Company be submitted to a vote of the property owners of the city at as early a date as possible.

There are two companies in Ottawa engaged in electric lighting—the Ottawa Electric Company and the Consumers' Electric Company. The Dominion House of Commons has recently passed an act permitting the consolidation of these two companies. The Senate has not yet approved the measure, but in case it should become law it is probable, under the authorization of the city vote mentioned, that municipal electric lighting will be immediately undertaken in Ottawa.

JOHN G. FOSTER, *Consul-General.*

OTTAWA, CANADA, *May 20, 1905.*

BRITISH COLUMBIA TOURIST ASSOCIATIONS.

(*From United States Consul Dudley, Vancouver, British Columbia.*)

Tourist associations composed of merchants and other prominent citizens have been formed in the cities of Victoria, Vancouver, New Westminster, and Nelson, in this province, to endeavor to attract tourists to visit British Columbia. An effort is now being made to unite the associations with a view to joining in the expense of maintaining an agent at Portland, Oreg., during the Lewis and Clark Exposition, to explain to the exposition visitors the attractions of British Columbia and thereby influence as many of them as possible to visit its cities.

All travelers to Portland who can possibly visit Puget Sound should do so. The scenery can be appreciated only by those who have viewed the numerous points of interest, and there is no section of our country which is developing more rapidly at the present time than eastern Washington. Tourists who find themselves at Seattle can very conveniently visit the two British Columbia cities, Vancouver and Victoria. During the summer months the *Princess Victoria*, claimed to be the fastest steamer on the Pacific coast, makes daily runs between Seattle and Vancouver, touching at Victoria. Doubtless excursion rates will be established whereby travelers can at small cost visit Vancouver and Victoria and many of the points of interest in that vicinity in three days.

It is expected that large numbers of people will come from the East, especially from eastern Canada, over the Canadian Pacific Railway, and to secure the most enjoyment they should return by one of the American roads. Without doubt many who come west over the American roads will arrange to return by the Canadian Pacific. Those who come or return by the Canadian Pacific Railway will have an opportunity to visit points of interest in and about Vancouver without changing their route. They can also procure tickets which will include Victoria in their itinerary. The scenery from end to end of this province is as beautiful as any to be found in the world.

Persons who have never visited the Pacific coast can form only a slight impression of the enjoyment that awaits them at the Lewis and Clark Exposition. The climate and scenery will more than compensate for any lack of interest the exposition may possess compared with the Louisiana Purchase Exposition.

I shall be glad to furnish information to any persons contemplating a visit to this city. The tourist associations of Vancouver, New Westminster, Victoria, and Nelson, British Columbia, will send their literature to all who request them to do so.

L. EDWIN DUDLEY, *Consul.*

VANCOUVER, BRITISH COLUMBIA, *May 20, 1905.*

BUSINESS ABUSES IN GERMANY.

(*From United States Consul-General Guenther, Frankfort, Germany.*)

The chamber of commerce for the Sorau district, Prussia, has forwarded two memorials to the ministry of the interior of the German Empire, praying that legislative action be secured to prohibit certain abuses in business practice that are burdensome and injurious to honest dealers and fatally affect the morale of the mercantile class and employees. The first is directed against the widely extended abuse of "closing out" and "bankruptcy sales" which are constantly advertised by numerous retail stores in city and country, and says:

The necessity for putting a stop to this practice is now admitted on all sides and has caused the sending of numerous petitions to the Government and to the Federal House of Representatives to remedy the evil. There can be no doubt that a special law is urgently required, as the efforts of the police authorities and of the State's prosecuting attorneys have not proved an efficient remedy.

Owing to the steadily growing competition among the retail dealers and the rapid extension of the department stores, many firms think they can not survive unless they resort to attracting customers by announcing forced sales, the disposing of bankruptcy stocks, etc. In fact, the purchasing public has become quite accustomed to avail itself of these apparently advantageous opportunities, and many storekeepers have been induced to regularly adopt this mode of doing business.

Such announcements of selling bankrupt stocks conflict with the law regarding "unfair competition," because goods bought from a receiver in bankruptcy when offered at second hand by a regular and solvent dealer cease to be bankruptcy goods. It is difficult to convict offenders under this law, as they may have been commissioned by a receiver in bankruptcy to sell the stock of veritable bankrupts. The mere announcement of such sales does incalculable harm to honest retailers. In most cases a suit for damages against a spurious dealer would be useless, because he will have found ample time while the suit is pending to put his assets in hiding so as to defeat seizure. We therefore pray that the following clause be added to the act on unfair competition: "Sales of goods from a bankrupt's stock may be announced only by the receiver in bankruptcy."

The second memorial is headed "Unfair competition by means of bribing employees," and says:

Of late manufacturers and industrial concerns have so loudly and frequently complained of the bribery of their employees that we have become convinced that it is high time to resort to the last means—legislative action. We therefore most respectfully pray that the Imperial ministry see to it that the act on unfair competition be amended by adding a clause making it a penal offense for anyone to bribe the employees of other firms by the offer or gift of money or presents, directly or indirectly, or to accept such bribes.

A bribery case of this kind was tried before a court in Zwickau, Saxony, in 1903, in which the accused stated in his defense that the practice of bribing employees was quite an ordinary business method. Nowadays it is not possible for a manufacturer to attend in person to all purchases of raw materials, machine fittings, and supplies required for his factory. He can not control how they are to be applied or used, but must, to a large measure, intrust the matter to various employees, on whose judgment or decision he relies. The business and the success of the firm depend largely upon the technical and moral qualifications of the employees charged with this trust.

Persons furnishing supplies compete with each other by bribing employees to obtain contracts or orders, and this system has become a fixed condition. Some employees receive presents of goods or money, others are paid a percentage on the amount of the supplies delivered to their firms, and the receipts from this dishonest source amount to considerable sums. Ordinary foremen derive as much as several thousand marks annually from this side income. This usage has become so common that supply agents advertise in the newspapers holding out bribes, and the employees do not deem it wrong to accept presents or percentages. When the supervision is close in the office or factory, the negotiations and arrangements are carried on at the employees' homes.

In order to introduce the supplies of the favored and bribing establishment, employees oftentimes do not shrink from resorting to criminal action, and apply deleterious stuffs to other goods so as to damage them or make them inferior, waste the materials, or knowingly order supplies dangerous to those working them up. These machinations are used to crowd out goods on which rascally employees have not received bribes and to give opportunities for selling supplies from a house which pays tribute. This abuse prevails in department stores and

large retailing establishments. It is also an open secret that in the awarding of public contracts frequently those firms are successful which have secured the aid of corrupt officials by bribing them. All precautions and efforts heretofore taken to stop this demoralizing practice have proved unavailing. The only hope left is that legislation with severe penalties will have a deterring influence.

The reports of all the chambers of commerce in Germany advert to this widespread evil, which seems to have become unbearable. Some cases of bribed persons, who, upon being discharged by their employers, brought suit for breach of contract, have been tried in the courts and have resulted adversely to the complainants.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *May 19, 1905.*

CHINESE LABOR FOR MEXICO.

(From United States Consul Anderson, Amoy, China.)

The owners of certain plantations in Mexico, especially in Yucatan, seem to be making an effort to secure Chinese labor for their establishments. Coming after an experience the Chinese laborers had in this line about a year ago, the present offer of work has caused considerable excitement among some classes. According to an advertisement in a native paper, the Japanese now have charge of the work of enlisting men in this proposed agricultural army. The advertisement, as translated, says, among other things:

About a year ago a certain agricultural concern in Mexico sent a special agent to Fuchau for the purpose of securing Chinese laborers, such laborers to take their families with them if necessary. They were to be shipped to Mexico to work on hemp plantations, but to do no other work. This enterprise had the consent of the governor of Yucatan, Mexico, but owing to the ignorance of Chinese law on the part of the agent, he undertook to issue an official proclamation himself, and consequently his mission was brought to a sudden end by the order of the Mexican consul. The agriculturists of Mexico need labor just as badly now as a year ago and have applied to the Cho Kiu Kan, emigration agents of Japan, for assistance. * * * Everything set forth in this notice is entitled to confidence. Incidentally it may be added that the treaty concluded between China and Mexico provides for the free emigration of citizens of either country and for the mutual protection of such emigrants. Emigrants take no risk whatever. It is understood that the foreign office in Fuchau has issued a proclamation on the subject, publishing all treaties and regulations relating thereto.

The response to this proposition does not seem to have been as general from any part of this province as was hoped, but it is probable that it will be general enough to make up a fair-sized shipment of

coolies to Mexican territory. But there is no "boom" in emigration to Mexico. In view of the fact that not less than 2,500,000 people from the Amoy district are abroad in such enterprises, this fact is somewhat notable.

The number of Chinese emigrants leaving Amoy this spring seems to be about the same as usual. Something like 75,000 will go to Singapore and the Straits Settlements and between 5,000 and 6,000 to the Philippines. Ten thousand will probably go to Hongkong, Saigon, and other ports. The money sent home by these emigrants is by far the largest financial resource of the people of this district.

GEORGE E. ANDERSON, *Consul.*

AMOY, CHINA, *April 18, 1905.*

NATIVE AND AMERICAN TOBACCO IN AUSTRALIA.

(From United States Vice-Consul-General Merrill, Melbourne, Australia.)

Tobacco cultivation in Australia was first attempted in the early sixties. It has been attended ever since with varying success. Experts have been brought here from time to time by the various State governments, which promised a bonus of 3d. (6 cents) per pound for the production of tobacco suitable for home use. This helped to stimulate the industry, but the crops being unsuccessful the bonus was never awarded.

In many States, however, experimental farms have been established, notably in Queensland, where, in the southern part, on the river flats, there has been much encouragement, and where cultivation will be carried on with renewed activity this year. The government of the State has gone to much trouble and expense in procuring the best grade of seed suitable to the climate and soil, and hopes for good results, but it is too soon to predict the quality of leaf which will be raised. The climate conditions are, however, more favorable than in Victoria or New South Wales. In these two States the climate is exceedingly dry, with no dew or humidity, such as there is in the eastern part of the United States and in the Connecticut Valley, although the soil is very similar, and such influences have, no doubt, something to do with the successful or unsuccessful raising of the plant. In Queensland, one-half of the State lies within the Tropics, and the climate, although warm, is free from the scorching hot winds which prevail in Victoria during a great part of the summer, and which dry up and burn almost everything in the way of delicate crops unless they are irrigated by artificial means. The labor question in Queensland is responsible to a great extent for the want of enterprise, as the climate in many parts is totally unsuitable for Europeans, on account of the malarial fevers which prevail at certain seasons of the

year. The only alternative is to employ colored labor or Kanakas to enable the crops to be raised profitably.

In most of the States where the tobacco plant has been grown the stripping and curing of the leaf has been under the supervision of American experts. Many of the manufacturers reside in Melbourne and are importers of American tobacco to the annual value of about $1,060,000 unmanufactured and $800,000 manufactured. These firms are the distributors for most of the Australian States. Trade is now largely conducted by the Anglo-American tobacco trust, which has absorbed most of the manufacturers by consolidation. This company has experimental farms in northern Queensland.

The chief difficulties in growing tobacco here are climatic influences, soil, labor, improper stripping and cutting, rot (or the blue mold), and the rank flavor, which latter in time may be overcome by constant cropping and cultivation. The manufacture of cigars in this country has not met with success, as a decided preference is shown for Habana or Manila cigars. The latter have become more popular since the islands have come into American possession. I am inclined to believe that if good brands of American cigars were pushed here they would find ready sale. The German and Swiss cigars find a good market here among those desirous of obtaining a cheaper article, but the pipe, with good American tobacco leaf, is universally used.

The government of Australia employs experts and analytical chemists who go into the subject of agriculture thoroughly and find out the different constituents of the soil necessary for growth, the scientific analysis of the water used for irrigation, etc. In time these efforts may enable growers to find the most suitable places for raising the tobacco plant.

A. P. MERRILL, *Vice-Consul-General.*

MELBOURNE, AUSTRALIA, *March 30, 1905.*

COTTON PRODUCTION IN BRITISH WEST INDIES.

(From United States Commercial Agent Haven, St. Christopher, British West Indies.)

The cotton industry of St. Christopher and Nevis can now be said to have passed the experimental stage and to have reached the point where it produces a steady and regular income. It has taken several years to convince the estate owners that, with proper care and attention, the cultivation of sea-island cotton can be made a financial success, and much credit is due to the department of agriculture of the West Indies for its accomplishment. During the past five years the department has conducted experiments on most of the West India islands.

In 1902 sugar sold at about £5 ($24.33) per ton, giving little or no profit to the producer, and owing to the continued depression of the market and its indefiniteness for the future it became necessary to seek some other product suited to the climate and soil. The reestablishment of the cotton industry appealed favorably to the planters; hence the first gin operated by steam power in the West Indies was started at St. Christopher in that year. The first shipment of cotton from this factory comprised 12,000 pounds of lint, which brought 27 cents per pound in the Liverpool market.

In 1903 the cotton industry on this island was not a success financially, the worms having attacked the plants before the cotton ripened. However, some excellent cotton was grown, which was valued in London at from 22 to 28 cents per pound. In 1904 there was a marked increase in the production, as the growers had gained more knowledge of the care and cultivation of the plants and of how to destroy the various forms of insect pests infesting them. For the year ended December 31, 1904, the export reached 55,625 pounds, all of which sold at an average of 32 cents per pound, although in Nevis cotton of extraordinary fineness and length of fiber was produced which sold as high as 36 cents per pound.

The remarkable growth of the industry can best be shown in the export for the quarter ended March 31, 1905, viz, 111,841 pounds, or more than double the export for the preceding year.

The total area devoted to the cultivation of cotton in the West Indies in 1904 was 11,681 acres, 7,243 of which were devoted to sea-island cotton. The Imperial commissioner of agriculture for the West Indies in addressing the fifth West Indian agricultural conference, held in January, 1905, said:

> It is now recognized that West India sea-island cotton is an article in good demand, and the industry shows every promise of being established on remunerative lines. It is probable that the crop of sea-island cotton to be reaped from now to May next will reach about 5,000 bales of 360 pounds each, worth £100,000 [$486,650].

The British Cotton Growing Association has rendered valuable assistance in making grants of both money and machinery, in receiving the shipments of cotton, and in finding the best market for it. In the latter part of 1904 the association arranged for a visit to the West Indies by a committee of cotton experts who rendered great service by explaining in detail the requirements of the spinners in regard to uniformity in length of staple, color, and fineness.

The commissioner further says:

> The cotton industry, equally with the cane industry, employs a large amount of labor; but no expensive buildings and machinery are required to prepare cotton for the market, while the waste product in the form of cotton seed may be utilized for the extraction of cotton-seed oil and for affording a valuable food for stock and, eventually,

for fertilizing the land. An attempt has been made to ascertain what is the cost of producing 1 pound of the best sea-island cotton lint and placing it on the market. Several statements have been communicated to me, varying according to the local circumstances, but I believe we may safely assume that under normal conditions, with selected and disinfected seed planted in good soil and well cultivated, the cost will not appreciably exceed 10 cents per pound. In the case of an estate yielding, say, 700 pounds of seed cotton (equal to 200 pounds of lint), and sold at 33 cents per pound, this would mean a profit of 23 cents per pound of lint, or, say, $46 per acre.

At present there are three cotton gins in St. Christopher, two in Nevis, and one in Anguilla. There are in all about 2,100 acres devoted to the cultivation of cotton, all have good crops, and as yet there have been no serious cases of plant infection. To all appearances the outlook is most promising, and providing the price of cotton does not decrease these islands will once more reach the prosperity of former years.

Exports of cotton from St. Christopher and Nevis, British West Indies, in 1902, 1903, and 1904, and in the first quarter of 1905.

Year.	Acres under cotton.	Exports.				
		First quarter.	Second quarter.	Third quarter.	Fourth quarter.	Total.
		Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
1902	300				12,000	12,000
1903	700	8,300	14,580			22,880
1904	2,100	11,920	12,582	29,328	1,795	55,625
1905	2,250	111,841				111,841

The total amount of cotton lint exported from St. Christopher and Nevis from 1902 to March 31, 1905, was 202,346 pounds.

JOSEPH EMERSON HAVEN, *Commercial Agent.*

ST. CHRISTOPHER, BRITISH WEST INDIES, *May 19, 1905.*

FINANCIAL AND COMMERCIAL DISTURBANCE IN BRAZIL.

(From United States Consul Aymé, Para, Brazil.)

A very strange and somewhat alarming financial phenomenon is in process of development here. Without any warning or apparent reason the value of the paper milreis for purposes of exchange suddenly began to rise about two months ago. For a very long time the value of the paper milreis in exchange varied between 21 and 24 cents, generally reaching the higher figure. At this rate the paper milreis was worth 45 per cent of the Brazilian gold milreis (54.6 cents). The value of the paper milreis has been computed in this consulate at the rate given for more than a year. The inexplicable and unwarranted rise has

now reached as high as 34.42 cents, which is 63 per cent of the gold milreis, and it is said that it will yet reach 18 pence (36.45 cents), which would be 66.75 per cent of the gold milreis. At present the rate varies between 32 and 34 cents.

It is said on the very highest authority that this rise is entirely factitious and temporary. Certain it is that for some time the Bank of the Republic has been taking in all the paper money it could get hold of. It now refuses absolutely to sell any paper, and is reported to have in its vaults not less than 15 per cent of the total paper money of the country. In consequence the foreign banks, whose business is almost exclusively exchange, are unable to furnish their clients with money, and the price of exchange has consequently risen to its present level. But this alteration in the value of the paper milreis (I speak, of course, for this district only) is noted only in exchange transactions and in the price of native products of large export value, such as india rubber, cacao, etc. These articles are purchased here in conformity with orders by cable from the United States and Europe, the buyers at the same time fixing the maximum price of the articles "to arrive." The purchasing houses here therefore subtract from this price limit various factors, such as costs of freight, boxing, cartage, commissions, shrinkage, duties, taxes, etc., and finally take into account the rate of exchange. If all the other factors should remain constant it is plain that as the exchange value of the paper milreis rises the price offered will necessarily fall. Therefore the ultimate victim is the producer of the chief articles of export. For example, there is plenty of evidence that under normal conditions a record crop of cacao would arrive this season for export. At the present rate of exchange the price offered to the producer is actually less than it costs him to gather and prepare his crop, not including its bringing to this market, and consequently orders have been sent up the river not to gather the cacao, but to let it rot on the trees. Meanwhile no reduction has been made in the enormous taxes and duties imposed, and, indeed, there is little doubt that they will be increased in the near future. Nor has there been any diminution in the prices of ordinary commodities, although at present rates everything is actually costing nearly 40 per cent more in gold than two months ago. Thus a house renting for 100 paper milreis a month cost the tenant two months ago $24.57 in gold, and now costs him $34.42 in gold.

Recently loans have been effected by various States and municipalities of Brazil which are bringing into the country about $60,750,000, and it is thought that this great influx of gold has had something to do with the appreciation in value of the paper milreis, but this theory is not tenable, or at least can only in part explain the phenomenon. Besides, the interest on this and other foreign loans must soon be paid and in gold.

Whatever the real causes of the rise may be, it is certain that the banks are in great distress and doubt. It is not believed that the rise will be maintained, but there is no factor upon which to form an opinion as to the time when a fall will occur in values or the extent of it. The present price of rubber abroad is firm and with a slightly rising tendency, but should the market weaken the effect would quickly be felt here. Fortunately for the rubber producers, the rubber season is practically over until fall, by which time some solution of the present problem may be expected. The general fear is that this solution will assume the nature of an acute financial crisis, followed by a panic and disastrous failures.

LOUIS H. AYMÉ, *Consul.*

PARA, BRAZIL, *May 10, 1905.*

DEFORESTATION AND CLIMATE.

(From United States Consul-General Gyenther, Frankfort, Germany.)

During the May session of the German Meteorological Society at Berlin a lecture on "Deforestation and climate" was delivered by Doctor Hennig, from which I take the following extracts:

The interest in deforestation and forestry may be called general and public. Whether forests exercise a perceptible influence upon the climate is a very old question, and even to-day it is not definitely settled. In many countries a drying up of the climate has occurred, which is shown perhaps most strikingly in almost the whole of Africa. That deforesting has assumed constantly growing proportions in almost every part of the world is still more apparent. The climate of Greece, where to-day only 16 per cent of the area is covered with forests, has deteriorated. An increase of temperature and decrease of rain are noted, compared with ancient times, especially in Attica, which was thickly covered with forests about three thousand years ago, and where hardly any rain now falls, while the heat in the open air attains a degree which would make the "Olympian games" almost an impossibility. A similar condition exists in the Peninsula of Sinai, where thousands of years ago the people of Israel lived in a luxuriant and fertile country and where to-day only forestless deserts abound. Palmyra, also once a flourishing oasis in the Syrian desert, presents to-day only a desolate waste of stones and ruins. In Mexico, where the Spaniards cut down the forests in the mountains, droughts changing to devastating floods are now noticeable, especially in the vicinity of the City of Mexico. In upper Egypt, where only one hundred years ago rain was abundant, drought now usually prevails. In Algeria, where, since the middle of the last century, the forests have been cut down on a large scale, dry weather has increased, and in Venezuela the level of Lake Tacarigua, to which Alexander von Humboldt drew attention, has been lowered in consequence of deforestation.

If these and other facts are kept in mind the sentence, "Man traverses the earth and a desert results," is understood. It must not be forgotten, however, that this applies mainly to the influence of civil-

ization upon appearances and is not always due to climatic changes produced by deforesting. Some authorities even deny the influence of forests on the weather and climate. It can not be denied, however, that dense forests favor moisture and prevent the drying out of the soil to a considerable degree. At any rate, deforesting, which in modern times assumes constantly growing proportions for industrial and agricultural purposes, is of universal importance.

Germany, with a forest area of about 26 per cent, realizes annually nearly $60,000,000 worth of timber therefrom, while the wood importations are about of the same value. The consumption of wood increases from year to year, and systematic forestry has not succeeded in keeping up the forest area of Germany. If it is furthermore borne in mind that Canada, which formerly possessed more than 300,000,000 acres of forests, has to-day only a forest area of about 225,000,000 acres, it becomes evident that the question of deforestation assumes great importance. If civilization continues to change the face of the earth the problem of its wood supply will present itself like that of coal and force the finding of a suitable substitute.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *May 16, 1905.*

PROPOSED REVISION OF THE HAITIAN TARIFF.

(From United States Minister Powell, Port au Prince, Haiti.)

The Government's commission to revise the tariff has made its report to the President, which will be laid before the present Congress for its approval.

The following recommendations are the salient features of the report:

1. That all duties be taken off imported agricultural machines.

2. That Haitian consuls at foreign ports be allowed to collect certain fees formerly paid here.

3. That the payment of tonnage dues of sailing vessels be modified and made similar to those of steamers.

4. That sailing vessels arriving in ballast shall pay no tonnage dues and be placed on the same footing as steamers.

5. That Haitian vessels doing a coasting trade between the islands of the West Indies shall in future pay the same as other vessels not Haitian that make voyages to ports outside of territorial waters, for light-house fees, sanitary fees, pilotage, and tonnage dues.

6. That custom-house inspectors be established, charged with a general oversight in the collection of duties and the inspection of the records of each port.

7. That there be a reduction of duty of 5 per cent ad valorem on the following: Tinware, embroidered bands, laces and insertions, saddle cloths, empty barrels, billiard balls, marble slabs, cigars, glass beads, maldioc or racaille, pens, chemical products, screws, surgical apparatus, buckles for saddles, and indigo.

8. That an additional duty be levied on the following: Cotton drawers, biscuits, cotton, woolen, and print shirts for men, liquid glue, linen cravats.

9. That the following articles not named in previous tariffs be required to pay an ad valorem duty: Photographic apparatus, lamp burners, squared wood, buckets, vermouth in barrels, carefons, corset covers, undershirts, lead, shoemakers' knives, small veils, and garters.

10. That duties on church ornaments be reduced 20 per cent.

11. That there be an increase in the classes of wood that pay duty, and that they pay at the rate of 5 cents for 1,000 pounds, instead of 100 pounds as stated in the present tariff, on woods and roots undesignated.

12. That the duty of 2 cents gold on hides be abolished and that the duty be reduced from 3 gourdes ($2.90) per 100 pounds to 1 gourde (96.5 cents) per 100 pounds.

13. That the duty on goat and sheep skins be increasd.

W. F. POWELL, *Minister.*

PORT AU PRINCE, HAITI, *May 24, 1905.*

IMPROVEMENTS IN PANAMA.

(From United States Consul-General Lee, Panama City, Panama.)

The natural resources of the Republic of Panama are but little known to the world at large, the interest in the monumental project of a trans-isthmian canal here overshadowing them. The work of the Panama Government in opening the country and facilitating the exploitation of its resources by extended improvements in transportation and communication has not been advertised as fully as present accomplishment and expected results warrant. Harbors, highways, and railways and a new city are among the projects to which President Amador has given his approval, and upon which work is in progress. At present the central provinces of Los Santos, Cocle, and Veraguas are the fields for the greater part of these improvements, for which $1,050,000 (silver) have been appropriated.

The harbors of Pescaderias and Puerto Posada are to be improved, so that it will be possible for passengers and cargo to be received and landed at wharves. With the exception of Panama City, the port of Agua Dulce is at this time the only harbor on the Pacific where it is possible for vessels to discharge and load from piers.

The project is to have, in the not far distant future, first, good roads and, later, railways, stretching across the plains and foothills, through the mountain passes, to the Atlantic, and thus develop rich natural resources which to-day lie dormant.

Long abandoned gold mines have recently been relocated, and are now worked with profit. The crude methods of the Spaniards were

successful only where the mineral veins were most accessible. The results obtained by the use of modern facilities will surpass those of the original discoverers. Because of the lack of transportation facilities coal and iron have lain undisturbed in the flanks of the hills. A large area of fine woods will become accessible when better communication is established. Cocoanuts, coffee, and rubber grow wild in luxuriance. To cite an example, it is credibly reported that an Indian cacique possesses 25,000 rubber trees. With the benefits of cultivation and transportation to an available market, a rubber crop yields a profit of from $1 to $2 (silver) per tree. Necessary Indian labor can be obtained for about 10 cents (silver) per tree.

At the base of the hills rolling plains suitable for grazing large herds of cattle stretch for miles. Flourishing plantations and ranches covered this country until abandoned because of a series of disastrous revolutions. Now that protection and peace are assured, and means of communication are being improved, the introduction of capital is certain to be followed by satisfactory results.

The Panama Government has appointed Vincent Peterson, an American engineer, to take charge of the development of the interior provinces. Mr. Peterson has had much experience in mining, railway, and municipal engineering in the United States and Mexico. Last November he came to Panama as assistant engineer to the minister of public works. He has organized the engineering corps of the Republic and surveyed the boundary line between the Canal Zone and the country in the vicinity of Panama. No Government undertaking has ever meant so much to the interior of this Republic, whose isolated dwellers are now about to profit by the rich advantages at their command.

The improvement of the harbor of Puerto Posada and the highway between that place and Penonomé is under way. Basket and rope making and the manufacture of genuine Panama hats are carried on in this vicinity. The port of Posada will serve as an outlet for the products of these industries. On the far side of Penonomé the highway will be continued through mountain passes and over the hills to the Atlantic.

From the port of Agua Dulce to the city of the same name the highway, with its necessary grades and bridges, is practically completed. This route will be further continued beyond Agua Dulce to the Santa Maria River. The river is to be spanned by an extensive steel bridge, the contract for which has been allotted to an American bridge company. Beyond the far side of the Santa Maria River the route divides, one branch leading to Chitré, capital of the province of Los Santos, and the other leading toward Santiago, capital of the province of Veraguas. Preliminary surveys of these routes are practically completed. Still another highway will connect Antom (or

Pescaderias) with Agua Dulce, passing through Náta and Pócri and crossing the route which joins Puerto Posada and Penonomé, thereby opening the surrounding country to the influence of commerce and industry.

All these national roads are to be 50 feet wide, and the highways, as well as all bridges upon them, are to be built with a view to the practicability of paralleling them with narrow-gauge railways.

Midway between Agua Dulce and Penonomé a model town has been planned. A public plaza, 460 feet square, is to be the center of the town, and around it will be grouped a church, school, Government and municipal buildings, and a market. This town will be provided with a complete system of waterworks, electric lights, sewerage, and drainage. Plans for these works are open for competition. All the necessary preliminaries have been approved by the President of the Republic.

JOSEPH W. J. LEE, *Consul-General.*

PANAMA CITY, PANAMA, *May 19, 1905.*

FOREIGN TRADE NOTES.

(From United States Consul-General Guenther, Frankfort, Germany.)

The following trade notes are compiled from German sources, as are, in the main, all the notes on foreign trade and contract opportunities transmitted in this form by me:

Argentina.—Argentina in 1904 imported 129 automobiles. The postal department, the fire department, and the ambulance service are using these vehicles, and the demand for them in other lines of transportation is increasing.

A German trade paper states that several financial groups in France have sent a prominent financier to Argentina, empowering him to invest $60,000,000 in enterprises in that country.

British South Africa.—For the last quarter of 1904 the imports of the Orange River Colony were valued at $3,889,260, $842,010 of which represented agricultural machines and implements. The exports of the colony during the same period amounted to $2,949,715, of which diamonds, worth $1,558,110, formed the principal item, followed by wool, worth $665,755.

Chile.—Chile's exports of saltpeter in the fiscal year ended March 31, 1905, aggregated 1,710,000 tons. Germany was the largest customer, followed by Great Britain, United States, and France in the order given.

China.—The commercial expert attached to the German consulate-general at Shanghai has forwarded to the imperial ministry of the interior at Berlin a collection of samples representing Japanese goods sold in China. These samples are on exhibition at the ministry, which

invites German manufacturers and exporters to inspect them and note the prices at which they are sold to Chinese dealers. The commercial expert gives information on various articles of Japanese manufacture used in China. I quote from his report:

The use of undershirts and jackets increases from year to year among the Chinese population. The Japanese have furnished in large quantities a cotton article which on account of its low price is to take the place of an American make of health underwear. The latter has had large sales here this winter. The imports of this class of goods at Shanghai in 1904 amounted to 1,759,340 pounds, of which 944,900 pounds came from Japan and 139,700 pounds from the United States. The remainder was furnished by Europe.

Cotton socks are also coming into extensive use. The imports of these at Shanghai during 1904 aggregated 30,088,930 pounds, which came from Europe, excepting 6,918,780 pounds from Japan and 97,800 pounds from the United States.

The imports of petroleum lamps at Shanghai in 1904 figured up to $184,938, and were furnished principally by Europe and Japan, the United States participating only to the value of $10,136.

Shanghai imported 110,800 tons of toilet soap, of which Europe supplied about two-thirds the amount. Excepting 5,132 tons from the United States, Japan supplied the remainder.

France.—The output of lace and tulle from 65 factories, having 2,200 machines and employing 30,000 hands, Calais, amounted to $16,000,000 in 1904, of which nearly $5,000,000 worth went to the United States.

Netherlands and colonies.—The exports of cocoa from Dutch Guiana in 1904 amounted to 1,878,877 pounds, against 4,858,803 pounds in 1903. The remarkable falling off is said to be due to diseases that have attacked the plants in Dutch Guiana.

Two new agricultural cooperative societies have been organized in the Netherlands for the purpose of purchasing fertilizers, agricultural machines, etc.—the "Boerenbund," at Sevenum, province of Limburg, and the "Cooperative Vereenigung to Nuis en Niebert," Marum, province of Groningen.

Persia.—For the fiscal year ended March 20, 1904, the imports of Persia amounted to about $32,250,000 and the exports to $21,300,000. Russia and Great Britain absorb three-fourths of Persia's foreign trade. The remaining fourth is principally shared by France, Austria, and Turkey. The United States participates only to the extent of about $533,000 in the value of the imports of Persia.

Roumania.—The Austrian consul at Bukharest, in a report to his Government, among other notes concerning trade with Roumania, concludes with these words:

A weighty factor is the oft-repeated but not well-heeded advice that the Austrian manufacturers should from time to time personally visit Roumania, besides sending their commercial travelers to canvass the country regularly. Only in this way will the manufacturers become well acquainted with the customers and learn what goods and styles are wanted.

Spain.—Spain in 1903 produced 2,587,650 tons of coal and coke and imported 2,085,430 tons of such fuel.

The British consul at Bilbao reports to his Government that the Spanish landholders are becoming convinced of the advantages to be gained by the use of agricultural machines, and in consequence the demand for them is steadily increasing. They are chiefly imported from the United States and France.

United Kingdom.—The shipments of coal from the United Kingdom to foreign countries in 1904 amounted to 46,255,547 tons, an increase of 1,305,490 tons over the preceding year. The shipments to America and South Africa, however, show a reduction.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *May 24, 1905.*

BRITISH SHEEP DIPS.

(From United States Consul Mahin, Nottingham, England.)

The British board of agriculture, through a recent order, requires the use of only such sheep dips as it shall first approve. The order contains the three following prescriptions for officially approved dips, which farmers may make for themselves:

Lime and sulphur.—Mix 25 pounds of flowers of sulphur with 12.5 pounds of good quicklime. Triturate the mixture with water to a smooth cream and transfer this to a boiler of 20 gallons capacity. Make up the volume with water to 20 gallons, boil and stir during half an hour, when the liquid should have a dark red color. If yellowish, continue the boiling until the dark red color is obtained, keeping the volume at 20 gallons. When the liquid has cooled, decant off from any small quantity of insoluble residue, and make up the volume to 100 gallons with water.

Carbolic acid and soft soap.—Dissolve 5 pounds of good soft soap, with gentle warming, in 3 quarts of liquid carbolic acid (containing not less than 97 per cent of real tar acid). Mix the liquid with sufficient water to make 100 gallons.

Tobacco and sulphur.—Steep 35 pounds of finely ground offal tobacco in 21 gallons of water for four days. Strain off the liquid and remove the last portions of extract by pressing the residual tobacco. Mix the whole extract, and to it add 10 pounds of flowers of sulphur. Stir the mixture well to secure an even admixture, and make up the total bulk to 100 gallons with water.

Other dips may be used if approved by the board. The time of immersion recommended, in the use of the three dips, is not less than half a minute, but a much longer time would seem to be necessary to reach eggs and insects concealed near the roots of long fleeces or under hard scabs.

FRANK W. MAHIN, *Consul.*

NOTTINGHAM, ENGLAND, *May 25, 1905.*

POSTAL, TELEGRAPHIC, AND RAILWAY SYSTEMS OF KOREA.

Under date of May 8, 1905, the United States minister to Japan (Lloyd C. Griscom) transmits the following official translation of the agreement between the Governments of Japan and Korea, and published in the Official Gazette on April 28, 1905, whereby the postal, telegraphic, and railway systems of Korea are transferred to the control of the Japanese Government.

AGREEMENT.

The Imperial Governments of Japan and Korea, finding it expedient from the standpoint of the administration and finances of Korea to rearrange the system of communications in that country, and by amalgamating it with that of Japan to unite the two systems into one common to the two countries, and, having seen the necessity, with that object in view, of transferring the post, telegraph, and telephone services of Korea to the control of the Japanese Government, Hayashi Gonsuke, envoy extraordinary and minister plenipotentiary of Japan, and I-hayeng, minister of state for foreign affairs of Korea, each invested with proper authority, have agreed upon and concluded the following articles:

ARTICLE I. The Imperial Government of Korea shall transfer and assign the control and administration of the post, telegraph, and telephone services in Korea (except the telephone service exclusively pertaining to the department of the imperial household) to the Imperial Japanese Government.

ART. II. The land, buildings, furniture, instruments, machines, and all other appliances connected with the system of communications already established by the Imperial Government of Korea shall, by virtue of the present agreement, be transferred to the control of the Imperial Japanese Government.

The authorities of the two countries acting together shall make an inventory of the lands, buildings, and all other requisites mentioned in the preceding paragraph which shall serve as evidence in the future.

ART. III. When it is deemed necessary by the Japanese Government to extend the communication system in Korea they may appropriate land and buildings belonging to the State or to private persons; the former without compensation and the latter with proper indemnification.

ART. IV. In respect of the control of the communication service and the custody of the properties in connection therewith, the Japanese Government assume on their own account the responsibility of good administration. The expenses required for the extension of the communication services shall also be borne by the Imperial Government of Japan. The Imperial Government of Japan shall officially notify the Imperial Government of Korea of the financial condition of the system of communications under their control.

ART. V. All appliances and materials which are deemed necessary by the Imperial Government of Japan for the control or extension of the system of communication shall be exempt from all duties and imposts.

ART. VI. The Imperial Government of Korea shall be at liberty to maintain the present board of communication so far as such retention does not interfere with the control and extension of the services by the Japanese Government. The Japanese Government in controlling and extending the services shall engage as many Korean officials and employees as possible.

ART. VII. In respect of the arrangements formerly entered into by the Korean Government with the governments of foreign powers concerning the post, telegraph, and telephone services, the Japanese Government shall in behalf of Korea exercise the rights and perform the obligations pertaining thereto. Should there arise in the future any necessity for concluding any new convention between the Government of Korea and the governments of foreign powers concerning the communication services, the Japanese Government shall assume the reponsibility of concluding such convention in behalf of the Korean Government.

ART. VIII. The various conventions and agreements respecting the communication services hitherto existing between the Governments of Japan and Korea are naturally abolished or modified by the present agreement.

ART. IX. When in future as the result of the general development of the communication system in Korea there is some adequate profit over and above expenditures defrayed by the Japanese Government for the control and maintenance of the old services and for their extensions and improvements, the Japanese Government shall deliver to the Korean Government a suitable percentage of such profit.

ART. X. When in the future an ample surplus exists in the finance of the Korean Government, the control of their communication services may be returned, as the result of the consultation of the two Governments, to the Government of Korea.

WHAT TO SEND TO SIBERIA.

(From United States Consul Haynes, Rouen, France.)

Under the above heading the London Daily Mail of May 25, 1905, publishes an article inspired by a report of Mr. H. Cooke, special commissioner of the commercial intelligence committee of the London Board of Trade, who has made an extended tour of investigation in Russian Siberia. The writer gives a view of the prevalent commercial conditions in Siberia, analyzes the receptive as well as the productive capacity of its millions of population, and tells the British merchant and manufacturer how to utilize its enormous and comparatively unknown market. He tells, also, how and why the German and American have outdistanced the Briton. Mr. Cooke says that some of his purposes will have been fulfilled if his report dispels the associations with which Siberia has been almost exclusively connected and dissipates its penal and climatic legends. The article, among other things, says:

Siberia is in some respects a primitive and outlying region of vast dimensions, of hitherto primeval communications and customs, but

now in a state of commercial transition. Its centers, thanks to the railway, are now easily accessible. The American, the Dane, and the German are there already, and have captured some of the most fruitful fields it affords for enterprise. If what remains does not at present offer any vast opening for special branches of British energy, it is at least not a market to be passed by. These rich regions will be to Russia's increasing millions what our colonies are to the British Isles.

Clearly and with a wealth of confirming detail Mr. Cooke shows the attitude of Siberia to British trade and traders. Everywhere the excellence of British wares is recognized, but in a great many cases they are not salable to anything like the extent of articles from America and Germany and other countries. Here are some of the reasons why British goods are introduced but slowly to the people of Siberia: (1) British goods too expensive; (2) British commercial men not enterprising enough, goods not sufficiently pushed; (3) absence of British agents on the spot; (4) disinclination of British manufacturers to do business on the rooted credit system of the country; (5) the use of the English language (not understood by the majority) in the place of Russian or German; (6) British dislike of anything but big business; (7) lack of British advertising in the numerous Siberian newspapers.

By the recital of these things Mr. Cooke shows definitely the market that awaits the enterprising British commercial man. Great Britain, the main purchaser of Siberian butter, furnishes for the most part the funds which enable the Siberian peasants to provide themselves in increasing abundance with separators and dairy appliances from Denmark and Sweden and with agricultural machinery from the United States.

Mr. Cooke says that he was told at Irkutsk by a machinery dealer that he could do business in the following classes of goods: Portable engines, river steamers, dredging appliances, small tugs, hand machinery for carding cotton for Manchuria (hitherto unobtainable at Irkutsk), turbines, belting, light steel nickeled baths, sanitary appliances, and cheap filters. He applied by advertisement in the British press for boring, printing, and mineral-water machinery, railway appliances, gold-mining plant, traps for animals, and stubbing machines, but the answers and catalogues, of which he showed me a bundle, being exclusively in the English language, he was able to make nothing of them.

Here are a few things used in Siberia and at present largely supplied by the United States: Spades, shovels, forks, hinges, automatic padlocks, typewriters, rifles, and revolvers. Germany supplies photographic cameras, portable cooking stoves, cycles, needles, printing mechanism, and brick-making and match-working machinery.

THORNWELL HAYNES, *Consul.*

ROUEN, FRANCE, *May 25, 1905.*

CANADIAN MAIL SUBSIDIES.

(From United States Consul-General Foster, Ottawa, Ontario.)

In response to the Department of State instruction of April 18, 1905, I inclose herewith a statement of the payments of mail subsidies by the Canadian government to steamship lines in the fiscal year ended June 30, 1904.

It should be noted that while only $116,800 was paid on the Canada and Australia service during the year mentioned, a further sum of $21,032 has since been paid and the balance of some $15,000 is yet unsettled. There are a few other small subsidy balances awaiting adjustment before payment.

The Imperial Government paid to the St. John, Halifax, and Demerara service a sum equal to that paid by the Canadian government, namely, $65,700. For the Canada, China, and Japan service the Imperial Government subsidy contract is £60,000 ($291,990) annually, of which amount the Dominion government pays $73,000.

JOHN G. FOSTER, *Consul-General.*

OTTAWA, ONTARIO, *April 28, 1905.*

Expenditures by the Dominion of Canada for mail subsidies, year ended June 30, 1904.

Service.	Dollars.
Canada and Great Britain	175,000
Canada and South Africa	146,000
Canada and Australia	116,800
China and Japan	73,000
Montreal, Quebec, and Manchester	35,000
Quebec and Gaspé	5,000
Quebec and Blanc Sablon	8,000
Quebec to Murray Bay and River Quelle	.....
Murray Bay and River Quelle (summer)	6,000
Paspebiac and Gaspé	.....
St. Catherines Bay and Tadousac (winter)	2,000
Magdalen Islands and mainland	15,000
Prince Edward Island and mainland	12,500
Prince Edward Island and Great Britain	2,500
Prince Edward Island, Cape Breton, and Newfoundland	1,500
St. John and Digby	12,500
St. John and Halifax via Yarmouth	3,846
St. John, Halifax, and Demerara (South America)	65,700
St. John and London	38,500
St. John and Glasgow	15,000
St. John, Dublin, and Belfast	2,250
St. John and Minas Basin ports	3,000
Halifax and Jamaica	13,800
Halifax and Newfoundland	1,714
Halifax and Canso	3,500
Halifax and Liverpool via Newfoundland	20,000
Grand Manan and mainland	5,000
Pictou Murray Harbor, and Montague Bridge	1,200
Pictou, and Cheticamp	2,000
Baddeck, Grand Narrows, and East Bay	4,062
Sydney and Whycocomah	1,000
Sydney and Bay St. Lawrence	1,500
Port Mulgrave, St. Peters, etc., and Marble Mountain	5,000
Port Mulgrave, Canso, Guysboro, Margaree, and Cheticamp	7,849
Petit de Grat, Arichat, and I. C. R. terminus at Mulgrave	1,596
St. Stephen, St. Croix, etc., and Back Bay	3,000
Dalhousie and Gaspé	11,500
Victoria and San Francisco	5,000
Victoria, Vancouver, and Skagway	12,500
Victoria and west coast Vancouver Island	2,431
Wrecking plant on St. Lawrence	10,000
Total	851,748

GERMAN ELECTRICAL PRODUCTS AND THE NEW TREATIES.

(From United States Consul-General Guenther, Frankfort, Germany.)

The Association for Protecting the Interests of German Electro-Technics, at its annual meeting May 2, 1905, at Berlin, adopted a resolution as follows:

This association notes the results obtained in our new commercial treaties with Switzerland, Italy, Servia, and Roumania, which lead us to presume that the exportation of German electrical products thither will maintain its volume as heretofore. The association, however, deplores the very considerable tariff increases made by Austria-Hungary, and the prohibitive character of the most important tariff schedules of Russia, in whose markets German dynamos, electric motors, and cables will henceforth have no sales. The total German exportation to Russia will be diminished by one-third. The association urgently requests the German Federal and State authorities to use all efforts for making up for this diminished exportation by getting better terms in the treaties to be negotiated. It is to be borne in mind that during late years numerous and extensive electrical manufactories have been established in various countries, and these, working under more favorable conditions, have either made it very difficult for us to compete with them or threaten to tie us up altogether in the near future.

According to this, the future offers opportunity for American electrical enterprise in many European countries where hitherto the Germans have dominated. The manufacturers of the United States have decidedly superior advantages in many ways over German manufacturers, but can only make them available abroad by personal effort and business tact.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *May 8, 1905.*

COTTON CULTIVATION IN DUTCH COLONIES.

(From United States Chargé d'Affaires Garrett, The Hague, Netherlands.)

Referring to dispatch of December 28, 1904, instructing this legation, at the request of the Secretary of Commerce and Labor, to report upon the steps taken and progress made during the year 1904 in the development of cotton production in tropical and subtropical territories under the jurisdiction of the Netherlands, I have to report, from information just received from the minister of foreign affairs, as follows:

As a result of the report made by the director of the Government botanical gardens at Buitenzorg, the sum of $600 was placed at the disposal of the residents of the southern and eastern districts of Borneo in 1904 to be used in carrying out experiments in growing of "Kapas Rampik" cotton, and in the same year $800 was placed at the disposal of

the director of the Buitenzorg Gardens, in order that he might institute an inquiry in regard to the cultivation of cotton with a view to its improvement and extension in the residencies of Samarang and Palembang. Further in the same year $3,200 was set aside for the purpose of granting advances to the people cultivating cotton in the district of Demak, residency of Samarang. The results of this latter expenditure led the governor-general of Netherlands India to issue orders to the effect that in 1905 the same sum be set aside.

As to the colonies of Surinam and Curaçao, the prospects of a resumption of the cultivation of cotton are given in Bulletin No. 2 of the agricultural inspection district of the West Indies. This bulletin shows that on the island of St. Eustatius experiments, which may be said to have been satisfactory, were made with various sorts of cotton. On St. Martin, with the assistance of the Government, plantings have been made which showed immediately that the cultivation of cotton there was practicable. In 1904 the Government advanced to a private individual in St. Martin a sum of $600 for that purpose. No report has yet been received in regard to an experiment on a small scale in the district of Nickerie, in Surinam, in 1904.

JOHN W. GARRETT, *Chargé d'Affaires.*

THE HAGUE, NETHERLANDS, *May 27, 1905.*

WORLD'S WOOL MARKET.

(From United States Commercial Agent Price, Jeres de la Frontera, Spain.)

The attention of European sheep breeders is being called to the present condition of the wool market. For thirty-five or forty years the price of wool had continually fallen, so that from 1895 to 1900 it had decreased 50 per cent below that of 1870 to 1875. Recently a rise in price has taken place in the world's market. The fall in price was attributed principally to the extraordinary development of wool production in Australia, Cape of Good Hope, Argentina, and Uruguay. These countries produced about 197,000,000 pounds in 1870, 256,000,000 pounds in 1880, and 360,000,000 pounds in 1889. This rapid increase of production enormously augmented importation into industrial countries.

Some years ago there began a progressive decrease of the flocks in European nations. In thirty years there had been a decrease of 34,000,000 sheep in the flocks of England, France, Germany, Austria-Hungary, and Spain. The sheep in Australia decreased from 108,000,000 in 1870 to 74,000,000 in 1898. The importation of wool into Europe from Australia, Cape of Good Hope, Argentina, and Uruguay amounted to 2,783,000 bales, 2,494,000 bales, 2,445,000 bales, 2,245,000 bales, and 2,045,000 bales in 1895, 1901, 1902, 1903, and

1904, respectively. The price of wool has steadily risen since 1901, and in the case of the wool called "cruzados" or "crossed" the price has increased 100 per cent in the London market. This rise is due to diminished production.

From 1840 to 1892 the number of sheep bred in Australia, Tasmania, and New Zealand increased with extraordinary rapidity; their numbers then began to shrink, and from 1898 to 1904 the decrease has been enormous. The Australian flocks decreased from 125,000,000 in 1892 to 111,000,000 in 1897, 103,000,000 in 1898, 92,000,000 in 1902, and 73,000,000 in 1903. The frequent droughts were the principal cause of this decrease of 50,000,000 sheep from 1892 to 1903. On account of this fact it is probable that the rise in the price of wool will continue. Thirty years ago the countries named bred only Merino sheep of fine wool, but afterwards the growers crossed the breed with English sheep of long, coarse wool, until now the proportion of mixed wool exceeds 50 per cent of the whole. Hence merino wool is scarcer than ever, and the caprice of fashion may increase the price far beyond what its quality merits.

M. M. PRICE, *Commercial Agent.*

JERES DE LA FRONTERA, SPAIN, *May 27, 1905.*

WHEAT IN MEXICO.

(From United States Consul Le Roy, Durango, Mexico.)

It seems reasonably safe to predict that the production of wheat will increase steadily in Mexico for some years to come, perhaps more than any other crop. The increase in acreage planted and in the quality and amount of wheat raised during the past few years has been notable in Mexican agriculture.

Wheat advanced in price along with other crops with the building of railroads, which brought also industrial enterprises, and in the cities and more lively of the smaller towns there has been springing up a middle class of artisans. With increase of wages comes a betterment of diet, seen, for one thing, in the relatively large consumption of meat that was noted in a recent report from this office. An even more conspicuous feature of the trend toward social improvement is the growth in popularity of white bread. At one time only the rich or well to do (generally speaking, the landed proprietors and the branches of their families living in the towns) could afford wheaten bread, and tortillas (corn cakes) were used to a large extent on their tables. Now the middle classes, and even the poorer people of the towns, whenever unusual work or a bit of good fortune brings them in a little money ahead, will flock to the bakeries to buy white bread at prices altogether unreasonable, for flour is, though bad, outrage-

ously dear. American rolling-mill machinery has been introduced, and the grade of flour is being improved slowly, as is the quality of the wheat crop raised. The demand outruns the supply, however, at least in this section of Mexico, and the pressure of good prices is driving all the ranch owners to plant more and more wheat each year. Old wheat has been selling of late in Mexico City for $15 Mexican per carga of 161 kilograms (about $1.25 in United States currency per bushel of 60 pounds), and a month earlier it was selling for nearly 20 per cent higher. The raiser can safely count on $1 gold per bushel for his wheat.

It is believed by some that spring wheat can be raised in Mexico without irrigation. All the wheat now raised on the arid plateau is winter wheat, and must be watered by artificial means. It has been suggested in various circles of late that by deep plowing shortly in advance of the rainy season the land of this plateau would retain a very much larger proportion of the water that now so speedily seeps through it during the rainy months, and that spring wheat could be successfully raised within ninety days, if planted at the proper time. This would increase the size of the crop immediately and also lead to improvements in methods of irrigation. Paul Hoffman, a German agricultural expert, who has been engaged of late by the Mexican Government for the purpose of introducing better kinds of fruit, is a believer, for one, in this experiment with spring wheat on the plateau. According to a Mexico City periodical, he says that wheat can be planted successfully wherever there is a rainfall of 250 millimeters (9.82 inches) per year, if there is natural or other provision for the retaining of this water near the surface, and he puts the average rainfall of the northern part of Mexico at 350 millimeters (13.8 inches) per year.

Another phase of the increased wheat culture of interest to American manufacturers is the demand created for modern thrashing machines, of which there were scarcely more than half a dozen in the whole State of Durango a few years ago. Ten or more thrashing machines have been bought in this vicinity in the past year, and the sale for others will, it seems fair to expect, steadily and quite rapidly increase from now on. The manufacturers who have been dealing with this market have learned that it is necessary to make the machines with a "straw-mangling" attachment, so as to leave the straw in the same shape as on the old Mexican thrashing floors for feeding to stock. Manufacturers new to the market should study other features which are peculiar to it.

JAMES A. LE ROY, *Consul.*

DURANGO, MEXICO, *May 30, 1905.*

CHINESE EXCHANGE AND CHINESE FOREIGN TRADE.

(From United States Consul Anderson, Amoy, China.)

The rapid and radical fluctuations of exchange between China and gold-standard countries during the first part of the current year seem to have left their mark to a greater degree than usual upon the business of the Chinese Empire. It is possible that indirectly good may come of this in that it is forcing the business circles concerned to give more than usual heed to the necessity of doing something toward financial reform other than is represented by the easy going drift of things which has invariably followed the signing of treaty agreements. The United States is interested in the establishment of a stable money in China not only by reason of its general interest in the advancement of trade interests in the Far East, but by reason of the fact that the present system acts as a direct and never ceasing deterrent to the extension of foreign trade, i. e., trade of gold-using nations.

The chief reason there has been no effect given to the promises of the Chinese Government in the way of financial reform has been that the banking element and some of the older and more conservative business interests, both among the Chinese and among foreigners doing business in China, have been opposed to the change in fact, although they have talked favorably of it in theory. They have been doing business under the present system profitably for many years. The life of the banking business in China is in its exchange branch, and this depends almost entirely upon the fluctuations and differences in value of silver and gold and copper in the same place and in different places in the Empire and in the world at large. It is this element which has opposed a change, but it is this element which can best appreciate the fact that unless there is a change in a very short time Chinese trade will be in such a shape that there will be less profit in their business because the business upon which it lives will have been seriously crippled.

It is quite too easy to speak discouragingly of the trade situation of China at the present time. The exports of tea and silk, once amounting to more than three-fourths of the total exports of the Empire, have gone down and down in the list until the bottom actually is in sight. This really seems to be more discouraging to the foreigners interested in Chinese trade than to the Chinese. The latter may be in a "fool's paradise" and may have yet to realize their position. Still Chinese export trade, on the whole, has gradually increased, not to what it ought to have been by this time, it is true, but nevertheless substantially. The imports, too, have increased, the advance from 1903 to 1904 alone being 5 or 11 per cent, according to whether values are measured by the market price or the c. i. f. value of last year's

goods. But when the imports fall off, as was the case last year, for commodities like cotton goods, for which the demand would be stupendous if the goods could be furnished at prices within the reach of the Chinese consumer, and which would be the case nearly all the time under normal conditions, it is evident that there is something wrong with the situation. There are a number of things responsible, but the chief of them is the matter of exchange and its fluctuations. Nor is it the cost of exchange on gold countries which is the trouble. In spite of its immense indemnity payments to gold-using nations, it seems probable, from the best showing of facts available, that China actually has a balance in its favor annually in its international dealings. But the sudden and violent changes of exchange make dealings upon an ordinary commercial basis almost impossible.

A wholesaler in China buys goods of a gold-using country uncertain whether exchange will rise or fall. If it goes up he will lose his profit and possibly some of his principal; if it goes down he may make an unusually large profit. His deal is little more than a gamble; and the wisest business man in China is he who buys only upon such a margin that the ordinary fall in exchange will not cut his feet out from under him. Yet how great this margin must be can be appreciated when it is realized that from March to May, 1903, exchange rose 12 per cent. It fell 3 per cent in June and rose again 13 per cent by September. In December it fell 10 per cent; in February of last year it mounted 16 per cent, fell 14 per cent by April, rose 9 per cent in the next two months, and after another fall jumped 8 per cent by the close of the year. These figures, traced by the Imperial customs authorities, show fluctuations of from 3 to 16 per cent nine times in two years in the standards by which bills for imports are paid. And any one of these fluctuations took place in less time or in no greater time than it takes to place and fill an order from China to the United States with ordinary mail communication, quick response, and the most rapid transportation. It is evident that to buy safely to sell at even a small profit the jobber in China must plan to allow enough margin to protect him against exchange fluctuations of this sort. The moment he fails to do this he is engaging in little more than a gambling transaction. Merchants in China who bought cotton goods without allowing for fluctuations in exchange at the beginning of the current season were caught, and unfortunate slow deliveries added to their troubles, so that some of them lost money. However, if allowance is made for such fluctuations it is evident that from 3 to 16 per cent for exchange is added to the cost of the commodities to the Chinese buyers.

Another unfavorable element in the import trade of China is that dealers in foreign goods, as a rule, are not satisfied with what would be considered a good profit in the average gold-using country, but make sales to consumers upon the basis of an extravagant and often

unfair profit. This is not so much the case with standard goods for which there is a certain demand, like recognized brands or "chops" of cotton goods, as it is with miscellaneous goods. Prices charged for notions and small goods by the average retailer in Shanghai, so great a center of trade as it is, not to mention the smaller ports and interior points, are out of all reason compared with the cost. For instance, a small pair of tweezers the other day cost me in Hongkong $1.10 Mexican (about 50 cents gold). I bought a better article in the United States a year ago for 15 cents gold. I paid $1.50 Mexican in Shanghai for a cheap edition of a song book which could be had almost anywhere in the United States for 35 or 40 cents and which, with the volume of trade in that business in Shanghai, ought to have been sold at practically the same rate. Practically all foreign goods, except a few staples, are subject to such charges. The demand of such a profit on foreign goods simply shuts American and other foreign exporters out of a market which they ought to have. So far, in this part of the Far East, at least, there appears to be no appreciation of the principle of doing a large business upon small profits instead of a small business on attempted large profits. The chief obstacle to the introduction and use of a large volume of foreign goods of many kinds is their great cost to Chinese consumers; and the most unfortunate feature is that much of this cost could be obviated by modern business methods and a broader minded business policy on the part of foreigners doing business in China. However, the most unfavorable element is the uncertainty of exchange.

It is doubtful if the rise and fall in the value of silver, the medium through which China settles its foreign liabilities, are as detrimental to the import business of the Empire as the fluctuations in the exchange between silver and copper, the money of the Chinese people, are to the business of the people themselves and indirectly to the export trade of the country. It is shown in a diagram issued by Mr. H. B. Morse, statistical secretary of the Imperial maritime customs of China, that silver has depreciated in the last thirty years, or copper has appreciated, or both, so that silver now has about 68 per cent of its former value as compared with copper and the haikwan tael of silver in China. An ounce and a third of silver of a certain standard of fineness now exchanges for a little over 1,200 copper cash, on an average, instead of 1,800 cash as at the beginning of the period. This, of course, has had an effect upon general trade, but the change has been more or less gradual and apparently does not of itself mark any great evil. The great trouble is with the sudden and violent and even local fluctuations between copper cash and silver all over the Empire, fluctuations which have or seem to have no connection with the changes in the value of silver as compared with gold and which certainly do not follow silver in its changes, although purchases for export may be made

on a copper basis, transferred to wholesale on a silver basis, and exported on a gold basis. The money of China is copper—the copper or brass cash pieces and of late the 10-cash or 1-cent pieces, which have been minted so freely, but which still fail to supply the demand for circulating medium with the people. There is between copper and silver the actual or intrinsic comparison of values which governs the relations of the money representing the two metals over considerable stretches of time, as is shown in this fall in the copper value of silver above referred to. But the local disturbances in the exchange of cash is wherein lies trouble, and these are the disturbances which can not be foretold, and which, indeed, can not always be explained. Ordinarily 1,000 full-sized, full-weight cash would probably have an actual (gold) metal value of at least 62 cents gold.

The ordinary exchange value of a Mexican dollar, about 46 cents gold, would therefore be about 750 cash. As a matter of fact, the actual exchange value runs from that number to 950 cash, and the variation is from day to day, almost from hour to hour. There seems to be a sort of understanding with the Chinese people that there are a certain number of cash in each province, and that when there is an unusual demand for them the number to constitute a dollar must be smaller than when the demand is slack. On this basis there is the variation characteristic of the cash system in China, and yet nearly all of the time the copper or brass cash are exchanging for less than their actual value of silver, as both are measured by gold. The melting of copper cash for industrial purposes has always been one of the characteristic features of the system, and the reason therefor is plain. The new copper 10-cash or 1-cent pieces are really worth about 22½ cents gold per hundred. They are fully as much under value, intrinsically, as the cash pieces are over value. They are accepted by the people at present as worth 10 cash or more chiefly because there is so strong a demand for money of their denomination and for circulating medium in general. Yet there is some fluctuation between the copper or brass cash and these 10-cash pieces. Out of such a maze of money and exchange comes the export business of the Empire.

Tea and silk, as a rule, are produced to sell on a silver basis. They are commodities which the Chinese as a people realize are produced as well for export as for home consumption. Yet tea and silk to-day comprise only about 45 per cent of the total exports instead of nearly 80 per cent something like a quarter of a century ago. The bulk of exports, even including tea and silk, are produced by the people and bought by wholesalers on a copper-silver exchange basis. In such buying there is naturally the same sort of a margin to guard against loss by exchange as there is between silver and gold in the matter of imports. The result is that the Chinese producer, by reason of the

fluctuations in exchange between silver and copper, is deprived of as full a return for his labor and other elements of production as he would receive if the currency system of his country was upon such a basis as would render such fluctuations impossible. Besides, prices to consumers in the United States and Europe are likewise higher.

The present system of Chinese money, therefore, acts as a direct tax upon both the imports and the exports of the country. It acts as a tax upon everyday domestic transactions of the people. The Chinese laborer, when he receives $8 a month in Mexican silver dollars for his services, is never sure what his pay is in copper with which to buy the necessaries of life. In every transaction of his daily life, in every purchase and sale of goods exported or imported, there is the element of exchange to tax him at every point. It reduces his earning power and reduces his purchasing power by working both ways. Over all this exchange are the middlemen, the native money changer with his table and writing materials on the street corner or in the tea shop, the native bank, and the foreign bank doing an international banking business in the larger and more important ports of his country. These are the factors which do not desire a change in the monetary system of China, and they are the very factors which can and will effect a change when it is to be made.

Assuming that the Government of China is of itself friendly to the proposed reform of the currency, a little consideration ought to show that nothing can be expected unless it has the cordial support of the classes in the Chinese business world who have to do with foreign exchange and the larger business transactions within the Empire relating to its domestic affairs. With so great financial burdens as the Chinese Government now has, with a place in international trade more or less doubtful and with uncertainty in every branch of the Government and the demoralization attendant upon the beginning of new things after centuries of Chinese methods, it is impracticable to expect the Government, with no financial reserve and none in prospect, to establish a gold standard monetary system of the modern sort unless it can have help from what are termed, in other countries and under other conditions, the business classes. Moreover, it is plain that with hundreds of millions of people living on such a narrow margin of support that a brief interference with the ordinary course of retail business and industries dependent upon fixed pay in the insignificant money to which the masses are accustomed means the literal starvation of millions, there certainly should be no sudden interference with the present system, nor should there be any wonder at the disposition of the officials, when the time for action on treaty obligations comes, to hesitate, vacillate, and delay. The problem before them is a most difficult one and there are no adequate Chinese precedents to

aid them in its solution. The business rules of New York and London can not be applied to China without due allowance for peculiar conditions. To make proper allowance is the difficulty.

The great mass of the people probably have not yet heard of the proposition to establish the money of the Empire upon a new basis. They transact their business from day to day with their old copper and brass cash pieces, with their silver sycee, and in the ports and country near the ports with the Mexican or local silver dollar, which they accept as bearing a certain relation to their sycee or tael, and which they accept only when it proves to be of standard weight and fineness and as representing so much bullion. Gradually subsidiary silver coins have come into use. But the money of the people is still copper and all new money is measured on a copper basis. It is to be remembered that in China the people are more powerful in some respects than in any other nation. It is safe to say that any serious disturbance of the country's coinage would promptly result in riots which the Government would not attempt to resist, but which it would promptly meet by acceding to the demands of the rioters. The number of people in China who live literally from day to day is stupendous compared with similar classes in European nations or in the United States. There are many rich men in China, and some of them are very rich, and yet it is very doubtful if the per capita circulation of money of all kinds will reach $1 gold. The delicately poised condition of the monetary and financial affairs of a country wherein there are millions who do not know to-day whence their support for the morrow will come can not be too much emphasized. The whole force of this inert mass is by its very inertia thrown against a reform. A reform which does not regard the great mass of China's population first of all will be no reform at all, for it will never be given effect, and would not succeed if it were attempted. Whatever reform comes will of necessity work from the people up and not from the Government and business circles down; at least it will have to meet the requirements and answer to the uses of the present currency so far as the Chinese people are concerned. The industrial and social condition is such that in China's new currency there must be practical trimetalism, or either gold or silver will have to drop out of consideration.

The influence of the mandarin class is thrown against a reform because of the difficulty it presents to this official class, which must bear the responsibility of a failure, and because the present system of coinage of silver and copper, especially the 1-cent pieces, is very profitable to the officials concerned. I have discussed this in former reports.

I believe that eventually some such plan for a new currency as that proposed by Prof. J. W. Jenks, commissioner in China of the commission on international exchange of the United States, will be adopted

in China with one or two marked modifications. It must be realized, in the first place, that the present monetary system in the real Chinese nation—the money which must be changed—is copper and not silver. The ability of the Chinese Government to control the value of copper and brass currency under the present provincial system is very doubtful, and if this can not be controlled one of the chief ends of the proposed reform is lost.

It certainly is out of the question to talk of building up a gold reserve out of the coinage of such money. Sixteen of the ordinary cash that circulate here in Amoy, rather undersized cash, some of which have been in circulation many years and are now broken and worn, weigh an ounce. An average of new and old coins will probably not exceed 14 to the ounce. This means 224 to the pound. In other words, the average Mexican dollar value, theoretically, is nearly 4 pounds of copper or brass in cash. The average value of copper ingots, slabs, and ore imported into China last year, as returned by the Imperial maritime customs, was about 13.45 gold cents per pound, freight to be added. Four pounds, at such a rate, make nearly 54 cents gold as the value of a Mexican dollar in these cash. It is evident that copper or brass cash can not be minted as at present and a profit accrue to the Government for the building up of a gold reserve. Yet to disturb the present cash system until there is an adequate system to take its place—a system which will allow the Chinese cooly to buy his little comforts with less than the value of the modern 1-cent or 10-cash pieces—is to invite a cataclysm in Chinese affairs for which neither the Chinese Government nor those with whom it does business are prepared. It is to be remembered that to the mass of people these new coins, the 1-cent pieces, are not as cents but almost as 10-cent pieces are to the people of the United States. A new system of coinage must supply to the Chinese what 1-cent pieces and pence supply to American and British retail trade. On a gold basis, and all authorities seem to agree that only a gold basis will suffice for the needs of China, even at this time, there must be allowance for maintaining an unusually large proportion of copper and brass coinage on the gold level. Copper in China's new system will probably be a liability instead of an asset in building up and maintaining a gold reserve. Nor do I believe it safe to assume that there will be a reliable profit on silver coinage in China where the Government is divided to such a great extent upon the provincial and viceregal basis.

To establish monetary reform and to prevent the waste to trade, both export and import, from which China is now suffering because of exchange fluctuations due to its present currency system, a gold reserve is necessary, which I believe must come directly or indirectly through the banking or, more generally speaking, through the business circles of the Empire. Whether a foreign loan to secure a gold

reserve would or would not be a success, I believe that the active and earnest cooperation of the business men of China, through the medium of a loan or otherwise, as might be agreed upon, would establish a reserve on a gold basis for the needed reform of the currency. This cooperation is not now to be had, and, as I have stated in former reports, I do not believe it will be had for some time to come; and when it does come it will come only through agitation in the United States and Europe and through pressure from abroad upon the proper circles in China. At present the Chinese officials do not seem to want reform and the bankers do not want it. At least the former will not act in the premises and the latter are making too much money out of present conditions to favor a change.

There are indications of secret international influences at work to prevent a change in the monetary system of China until such time as will best serve the interest of those responsible for them. But the chief element in the present state of inactivity is the banking element. It is enough to tell the whole story to report that the principal banking institution in China, the institution which has close relations with the fiscal acts of the Chinese Government, paid a dividend in 1904 of £20 sterling ($97.33) on stock which is quoted in the newspapers to-day at £80 10s. ($391.76). This same bank, in its several branches in Chinese ports, pays 2 per cent on daily balances of its depositors and from 3½ to 5 per cent on yearly deposits. On the other hand, its charge on overdrafts of its depositors is only 7 per cent, and sometimes less. Its expenses are large, and its loan department works under far less favorable conditions than most institutions of its class in the United States. Its exchange department is its profitable department, and it is easy to see why such an institution is not favorably inclined toward a change in China's currency, whatever it may be in theory. What is true of this bank is true, more or less, of other banking institutions of China. They are making money out of exchange. Their influence is cast against a change that means a break in a profitable business. Naturally, their stockholders, which include some of the most influential Chinese business people, are inclined to support the interests of a business which pays 24 per cent per annum on the nominal market value of its shares, or at least offers large returns and a safe investment. And in support of these interests, which really represent a negative force in the matter of Chinese currency reform, are the characteristic Chinese tendencies to cling to old methods and support Chinese institutions as against foreign methods and the more or less well-founded fear of entering upon changes which may have lamentable results both to the business interests of the Empire and to the common people, whose very existence depends upon there being no disturbance of present conditions.

It is reasonable not only to hope, but to expect that broader minded

policies will prevail and a broader view of their own interests will lead those responsible for the present inactivity in the monetary reform of China to give that aid which will make the change possible. The rise of prices of most commodities in gold-standard countries in the past few years and their continued rise must of necessity bring a change. China must be enabled to buy of these countries upon favorable terms and without any of the drawbacks which now hinder her international trade or else the splendid increase in foreign imports in China will be checked and there will be all along the line a break in the country's imports of the same sort and based upon similar reasons to those which brought about the general check in cotton imports last year. Things can not continue indefinitely upon the present basis. A check in international trade would strike the banking interests of China in the very department they are now seeking to protect—that of exchange. Direct personal interest, therefore, may suggest the advisability of favoring this change in Chinese money, which will put its international trade upon a better basis and, though it may reduce present profits, will at least have the merit of insuring reasonably sure profits for the future.

The business interests of the United States having connections in China can serve this cause directly by urging upon their Chinese correspondents the need and expediency of actively working for monetary reform. When the active, earnest effort for a gold-standard currency comes in China, and it must come, they can probably serve their own interests and those of China by subscriptions to the guaranty fund or loan upon which that system will be built. I do not see how it can be established in any other manner than by a guaranty loan which shall be in the nature of a gold exchange credit abroad, as suggested by Professor Jenks. But that the business interests of China can find the means to properly establish it when once they go at the problem in earnest I have not the least doubt.

GEORGE E. ANDERSON, *Consul.*

AMOY, CHINA, *May 2, 1905.*

EXPERIMENTAL COTTON PLANTING IN JAVA.

(From United States Consul Rairden, Batavia, Java.)

During 1903 a small quantity of prime Egyptian cotton seed was imported by the Mercantile Society of Amsterdam and planted on an estate situated on the high lands near Malang, East Java. On the advice of an authority on cotton cultivation the seeds were planted 3 grains per hole at a distance of 6 inches apart. This distance, however, seemed to be too great. The soil was kept clean and free of weeds and in a short time the seeds sprouted. When the plants began to bear leaves they were transplanted.

The plants developed well and the average yield per plant may be considered very satisfactory, but when the crop was gathered in October (some eight or nine months after planting) it was found that 2,000 plants to the "bahoe" (1.75 acres) was not sufficient. The average yield was 1 picul (136 pounds) of clean cotton and about 2 piculs (272 pounds) of seed to the "bahoe" (1.75 acres). On another estate near Malang the yield has been somewhat better—204 pounds of clean cotton and 408 pounds of seed to the "bahoe."

The cotton has been cleaned by a patent hand machine with a capacity of from 4.2 to 5.5 pounds of clean cotton an hour. The quality of the cotton is as good as could be desired, the staple being fine and long, and shipments have already been made to the Netherlands.

The native cotton, "kapas djawa," is shipped almost exclusively to Eastern parts as sowing cotton—raw cotton not cleaned from seeds. It has a very short staple and is therefore unfit for weaving yarn, and its value is therefore slight. It is chiefly used for upholstering purposes. Under the most favorable circumstances it would never pay a European to cultivate this native cotton, the yield being valued at about $15 to the acre per year; therefore, the European planters decided to experiment with other varieties, hoping that their efforts might in the end prove successful.

In 1904 a further experiment was made in cotton planting, and although it has not yet been fully reported on, it is expected to be far more successful than the experiments in 1903. The soil has been well worked and a more intensive mode of cultivation has been adopted than in the previous year.

February is considered in Java the best time for sowing the seed (March at the latest), and October and November are generally the months for gathering the crop. The young plants have the benefit of the rain, and the crop is gathered before the next rains begin, which is absolutely necessary, as the buds are destroyed by heavy rains.

In addition to the common cotton hand gin used in 1903, a patent self-feeding double-action cotton gin has been ordered for working the 1904 crop. This gin can turn out 40 pounds an hour, and has a driving power of 1½ horsepower.

Some little trouble is experienced from caterpillars, especially in a wet season, but during the usual dry season, expected from the last of March to the latter part of October, there is not much difficulty in guarding against the pest, although this means constant watching. It has been ascertained that the cotton plants do not thrive well in a moist soil and do not grow so well in virgin soil as in soil which has been planted for a season or more.

It appears that the Netherlands Indian government has for a number of years endeavored to encourage the natives in different districts

of Java in the cultivation of long-stapled cotton, but without success. Dr. Tromp de Haas, formerly connected with the botanical gardens at Buitenzorg, has written articles on the cultivation of cotton in Java, in which he states that unfavorable weather and plagues are responsible for its nonsuccess. Others, however, believe it is only a question of time when cotton will be successfully grown in Java.

A firm of well-known spinners in Gronau has taken on trial a lot of the Java cotton and is quoted as reporting on it as follows:

The Java cotton taken in hand is of splendid quality, and in color especially is not to be distinguished from the Delta product. The staple is pretty equal and the yarn may be used for 40s, 45s, and at the utmost for 50s, and for exceptionally fine qualities. Planting this sort of cotton might prove remunerative. The samples sent have not been combed, though they look as if they had been.

In addition to a few small trials made with imported Sea Island seed during the past year, experiments were to be made near Malang, and the following varieties were imported for planting: Mit Afifi, Abassi, and Yanovitch, from Egypt, and Sea Island, Shine Upland, and King Upland, from the United States. The first four are of long staple and the last two of average staple. These were planted in a tract of about 70 acres, and the seeds soon sprouted and produced healthy plants. When the first buds appeared the plants were in fine condition and the most hopeful anticipations of good results were entertained if the rains would only cease. The rains, however, did not cease, and consequently what had been fine flourishing plants were stripped of their buds and nothing but the bare stalks were left. Some plants attempted to bud again, but were attacked by small beetles, and in time they all died.

B. S. RAIRDEN, *Consul.*

BATAVIA, JAVA, *April 18, 1905.*

FLAX-CULTURE EXPERIMENTS IN IRELAND.

(From United States Consul Knabenshue, Belfast, Ireland.)

For the past four years the department of agriculture at Dublin has been carrying on experiments in flax culture, including tests of fertilizers, varieties of seed, etc. The report for 1904 has just been published.

The general plan of the three previous years was adhered to in the use of fertilizers. The experiments of 1902 and 1903 with salt, rape meal, and basic slag gave bad returns, and their use was discontinued. Two potassic fertilizers, kainit and potassium sulphate, were tried in 1904. The fertilizers tested were kainit, a mixture of superphosphate and kainit, and a mixture of ammonium sulphate, superphosphate,

and kainit. These tests were conducted on ten farms in Londonderry, Antrim, and Down.

The conclusions of the department may be summarized as follows:

1. A potassic fertilizer may usually be depended upon to give profitable returns when applied to flax.

2. Potassic fertilizers effectually prevent "yellowing" in the early stages of growth.

3. Basic slag and rape meal are not profitable fertilizers. The same is true of the mixture of kainit and superphosphate.

4. The bulk of crop and yield of retted straw may be increased by the use of the mixture of potassic, phosphatic, and nitrogenous fertilizers (kainit, superphosphate, and ammonium sulphate), but the yield of scutched flax is not proportionately increased, and the use of the mixture is not recommended.

5. A phosphatic fertilizer (superphosphate and basic slag) benefits the flax, but also encourages a strong growth of weeds to the detriment of the flax.

Potassic fertilizers not only benefit the flax, but markedly promote the growth of clover in the following year.

Tests were made in 1904 of four varieties of flax seed, two of Russian varieties—Belfast Brand and Perneau Crown—and two of Dutch varieties—Belfast Brand and Riga Grandchild. The seeding in all cases was at the rate of 62 quarts per acre. The trials showed better results from both varieties of Dutch seed than from the Russian seed.

S. S. KNABENSHUE, *Consul.*

BELFAST, IRELAND, *May 28, 1905.*

BRITISH LEATHER TRADE.

(From United States Consul Mahin, Nottingham, England.)

Complaint is made by the British leather trade of the injurious effect thereon of the American drawback system. It is pointed out that under this system American tanners may import raw hides, finish them, and then, claiming a return of 99 per cent of the duty paid, export the hides to Great Britain to compete with British tanners. It is also pointed out that the drawback system enables the American tanner to deliver leather to British buyers at a lower price than the British tanner can profitably sell it. British tanners are therefore directly interested in the proposed free admission of raw hides into the United States, as it is believed that the immediate result of removing the duty would be to make the export of leather from the United States less profitable than the domestic sale.

The tanning trade in this country has been very dull for several years, and some large firms have had great difficulty in keeping out

of bankruptcy. The depression has been aggravated by the large and increasing imports of shoe leather from the United States, the value of which was nearly $17,000,000 in 1904, an increase of $500,000 over 1903. However, so far in 1905 the condition of the trade is more cheerful for the British tanner. The imports from the United States show a substantial decline, in comparison with the corresponding period of 1904, and the British exports of leather have increased about 30 per cent in comparison with 1903 and 1904.

FRANK W. MAHIN, *Consul.*

NOTTINGHAM, ENGLAND, *May 26, 1905.*

PROGRESS IN DISINFECTION.

(From United States Consul-General Guenther, Frankfort, Germany.)

The General Chemist's Gazette, of Lübeck, Germany, states that disinfectants in order to be practical must kill bacteria without injuring the things disinfected; must not emit bad odors, and must not be too expensive. Among other important problems yet to be solved is the certain disinfection of barber's tools. Combs and brushes are often greasy and resist purification. So far, disinfection with a 4 per cent formaline solution has been considered the best mode, but an Italian expert has recently recommended a 50 per cent alcohol solution for the purpose, as the articles dry quickly and the cost is small.

The disinfection of bristles and skins, in order to prevent transmission of the dangerous germs of anthrax to workers in such substances, is an important problem. According to Professor Von Esmarch, hides which had been exposed to light for some time showed no germs. Drying also prevents the formation of germs, but salting hides acts favorably to the preservation of anthrax germs. The germs are most surely killed by a 1 per mille solution of corrosive sublimate or a 1 per cent solution of formaline water vapor.

The inspector of the disinfection office of Turin has instituted an innovation in destroying germs in dwellings. He uses a 1 per cent solution of sal soda for cleansing the floors, whereby the bacilli of diphtheritis and typhus are killed within one minute. The use of poisonous corrosive sublimate does not remove the dirt in which living bacilli are still found after disinfection.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *May 26, 1905.*

COTTON CULTIVATION IN TROPICAL AND SUBTROPICAL COUNTRIES.

On December 28, 1904, the Department of State, at the request of the Department of Commerce and Labor, instructed the American ambassadors and ministers to France, Germany, Italy, the Netherlands, Portugal, Spain, and the United Kingdom to secure information relative to the development of cotton production in the tropical and subtropical countries under the jurisdiction of those governments. Reports in answer to the instruction have been received from France, Italy, Portugal, and Spain. Reports from Italy and Portugal merely transmit official pamphlets in Italian and in French relative to cotton growing in Italian and Portuguese colonies. The reports from France and Spain herewith follow, together with reports relative to the Mexican cotton tree and its products and to a new hybrid cotton tree in Queensland.

COTTON CULTIVATION IN FRENCH COLONIES.

(From United States Ambassador Porter, Paris, France.)

ALGERIA.

The production of cotton in Algeria is of very little importance. A considerable amount was grown during the American civil war, but at that time the French Government granted liberal bounties and cotton brought a high price.

The Georgia long-staple cotton, especially, yielded good results with irrigation, but even under these conditions it is not likely that the average yield exceeded 200 kilograms of cotton per hectare (440 pounds per 2.471 acres). Efforts are now being made to extend the production of cotton in Algeria, but the results obtained are still inadequate. Egyptian cotton succeeds very well, even though a large proportion of the bolls fail to mature. Doctor Trabut, director of the botanical service of the Algerian government, is now trying the Abaris variety, with which he has obtained as much as 1,200 kilograms of bolls per hectare (2,640 pounds per 2.471 acres). For several years past he has also been attempting to create an early maturing variety by hybridization. There is a small amount of cotton grown in the oases of southern Algeria.

WEST AFRICA.

The efforts of the French colonial administration elsewhere are directed chiefly to developing the cultivation of cotton in the West African colonies. Experiments are now being made in the Niger Valley and in Dahomey to improve the methods used by the natives, and to cultivate both American and Egyptian cotton. Although such experiments have by no means been completed it nevertheless is possible to predict good results.

MADAGASCAR.

A field laboratory has just been established near Majunga, Madagascar, to study the cultivation of cotton. A society has also been founded under the name "Colonial Cotton Association" (rue St. Fiacre, Paris) to put to practical service the agricultural bureau's investigations. This society is chiefly interested, however, in the technical processes and the transportation of French colonial cotton.

HORACE PORTER, *Ambassador.*

PARIS, FRANCE, *March 14, 1905.*

COTTON CULTIVATION IN SPAIN.

(From United States Minister Hardy, Madrid, Spain.)

The agitation in Spain in favor of the cultivation of cotton is a part of the general European movement to extend the area of cotton production, whereby the colonies and dependencies may, by furnishing an additional supply of the raw material, diminish the dependence upon the American market, and control to some extent the violent fluctuations of prices on the New York Cotton Exchange. Whenever the price of cotton rises in Barcelona this agitation is revived, but the subject is forgotten when quotations reach a normal level, and no practical results have followed. Cotton having been cultivated in the provinces of Granada, Seville, Cadiz, Valencia, and Murcia for more than four centuries, and no marked changes in soil or climate having occurred, it is evident that its cultivation is still feasible; but since 1825, when its production in Spain practically ceased, not only the condition of world competition, but also the scale of wages, rent of land, etc., have so changed that the past offers no sure guide for the future. For this reason the many treatises by Spanish authors on this subject have only an academic value. Moreover, recent experiments made without regard to the extraction of the oil from the seed, an indispensable complement to successful culture, have been so desultory and on so small a scale that the practical question, Can cotton be cultivated to-day in Spain with commercial success? remains unanswered. It

was to solve it in a definite form by Government aid that the late minister of finance, Señor Osma, took up the matter in 1904, and the recent movement is due primarily to his initiative.

A royal decree of March 14, 1904, authorized the presentation to the Cortes of a project of law designed to stimulate the development of cotton planting in the Peninsula.

The proposed law was as follows:

ARTICLE 1. Lands devoted to the planting and cultivation of cotton shall enjoy for the first three years immunity from ground, cultivation, and cattle taxes, and during the ten succeeding years shall pay in respect to the said taxes only what the same lands were liable for prior to making the experiment in this culture. The benefits conceded shall be understood to apply to said lands so long as they are exclusively dedicated to the cultivation of cotton.

ART. 2. In order to encourage this culture, money prizes are granted, to be awarded to such as prove to have realized the best results and on the largest scale. To provide for the said prizes there shall be included in the general budget of the State and in an additional title to section 8, "Ministry of agriculture," the credits of 50,000 pesetas[a] ($7,500) for the first year, 100,000 ($15,000) for the second, and 250,000 ($37,500) for the third, when the results obtained in the first two years shall have insured the probability of a successful industrial cultivation. The awards will be made by the Government on the decision of a committee composed of the president of the superior council of agriculture, industry, and commerce, of the bureau of national labor of Barcelona, and of the consulting agricultural commission. In awarding the prize for the third year the committee will take cognizance of the results attained in the two preceding years.

The foregoing was submitted to the Cortes with a brief statement of the object in view, and a reference to the rise in price of the raw material due to speculative manipulation in the "chief cotton market of the world," and the consequent injurious effects upon the industries of Europe, effects which, if not wholly preventable, the Government of Spain sought to curtail as far as possible. The cultivation in the past was recalled, and the fact that recent experiments had proved that cotton of a good quality could be grown in the Peninsula. Whether its production could attain the proportions of an industry remained to be ascertained. The Government was confident that it could, and was therefore ready to encourage individual effort. The prize for the first year was to be granted solely for quality. That of the second year was to be awarded to the producer who should have made the experiment on a scale sufficiently extensive to afford a calculation of cost remunerative to the grower and acceptable to the mills. It having been thus established by the results of the first two years' experiments that the production of cotton was an industrial possi-

[a] The peseta throughout this report has been reduced to American money, in the Bureau of Statistics, at 15 cents, that being about its value at the time the estimates herein were compiled.

bility, the prize of 250,000 pesetas ($37,500) was to be awarded to the planter who in the third year produced the largest crop.

The proposed law was approved without discussion by both the House and the Senate, was proclaimed July 19, 1904, and published in the Gaçeta of July 21.

As there did not exist in Spain any plantation on which cotton was cultivated on a scale affording a basis for the calculation of economic results, an estimate was made by an agricultural engineer in the department of finance. I am indebted to Señor Osma for estimated expenses for the cultivation of 10 hectares (24.7 acres) of land, and receipts for the cotton produced.

For the cultivation of 10 hectares (24.7 acres) of irrigated land, the picking and preparation of the cotton for market, interest on capital invested, rent of land, etc., Señor Osma estimates the outlay at 5,860.47 pesetas ($879.08), and he estimates the receipts at 9,450 pesetas ($1,417.50), leaving 3,589.53 pesetas ($538.42) profit.

For the expenses for the cultivation, etc., of 10 hectares (24.7 acres) of nonirrigated land, his estimates are 2,344.68 pesetas ($351.70), and for the receipts 3,768.72 pesetas ($565.31), leaving a profit of 1,424.04 pesetas ($213.61).

In 1896 a report was made by the agricultural fiscal agents in which was given the difference between the expenses and receipts per hectare for the principal crops in the district of Motril, province of Granada. As this district is one of those in which cotton might be most successfully grown, and as one of the chief obstacles to planting it is the relatively better results obtained from other crops, it is of interest to compare the net profits as given in this report with those of the above estimate.

Net profit per hectare (2.471 acres) for the principal crops of the district of Motril, Granada, Spain, in 1896.

Crop.	First class.		Second class.		Third class.	
	Pesetas.	*Dollars.*	*Pesetas.*	*Dollars.*	*Pesetas.*	*Dollars.*
Cereals, irrigated land	336	50.40	246	36.90	145	21.75
Cereals, nonirrigated land	37	5.55	26	3.90	5	.75
Sugar cane, irrigated land	1,229	184.35	801	120.15	321	48.15
Olives, irrigated land	164	24.60	131	19.65	81	12.15
Fruits, irrigated land	409	61.35	295	44.25	194	29.10
Vineyards, nonirrigated land	183	27.45	145	21.75	107	16.05
Olives, nonirrigated land	125	18.75	106	15.90	83	12.45
Almonds, nonirrigated land	371	55.65	275	41.25	196	29.40
Figs, nonirrigated land	131	19.65	96	14.40	62	9.30

The measures taken by the Government to encourage the cotton industry rest upon the fact that cotton was in former times profitably produced in Spain, and upon the assumption that wherever sugar is successfully cultivated cotton may be also successfully produced. It is further assumed that the same will be true for the olive districts, especially on land having a southern exposure and sheltered from the

winds. The districts in question are those on the littoral of the southern provinces and parts of Murcia, Valencia, and Alicante, the borders of the Guadalquivir, from Seville to San Lucar de Barrameda, parts of the southern slopes of the Sierra Morena, and certain districts watered by the Tagus. A pamphlet has been issued explaining the necessary conditions of soil and climate, in which the mean maximum temperature for the southern littoral of Spain is stated to be 38° (absolute maximum 39°), the mean 17°, the mean minimum 2° (absolutely minimum 1° below zero) C. The relative humidity in February, March, October, November, and December varies between 93 and 100, and in August between 21 and 25. The rainfall is of sufficient regularity; in spring, autumn, and winter, twenty-four to thirty-two days in each period, while in summer only five days of rain occur, during which the rainfall is 12 millimeters (0.4728 inch). For the whole year it is 760 millimeters (30 inches). During April and September the hot and dry east and southeast winds (levante) and the cool and damp southwest winds prevail. The former, when persistent and attaining a velocity above 50 kilometers (31 miles)—it sometimes reaches 79 kilometers (49 miles)—is fatal to vegetation on account of the active evaporation provoked. Back from the coast, as the altitude increases, uniformity of temperature and rainfall diminishes not only for the year and month, but during the same day, the difference becoming so great in the central provinces as to render the cultivation of cotton impracticable. Cotton has been grown just south of Madrid, in Aranjuez, but the frosts of March and April and the superior profits obtained from market produce forbid its production in marketable quantities.

Señor Osma, in a conversation, assigned as the main difficulties in the way of success, (1) that on many lands suited to cotton production larger profits are obtained from other crops, and (2) that facilities for the extraction of the oil from the seed do not exist in Spain. Extracting this oil entails important modifications in the Spanish oil industry, so that even supposing the Peninsula could supply all the cotton required for its factories, operating about 3,000,000 spindles, the producers could not for a long time find sale for their seed. It is further admitted that cotton culture on ordinary unirrigated land is out of the question, and that while it is feasible on irrigated lands, the economic results can be determined only by experiment. With cotton at the price prevailing at Barcelona in March, 1904, when the law was passed, namely, 283 to 292 pesetas per 100 kilos ($42.45 to $43.80 per 220.46 pounds), according to quality, the textile industry of that province could not be maintained. For fair mill results the price should not exceed 200 pesetas ($30), and allowing 30 pesetas ($4.50) for loading, commissions, and insurance, there remains only 170 pesetas ($25.50) for the producer.

It is evidently too soon to look for any results from the working of the law. It may safely be said that as yet there is no indication that

any appreciable contribution will be made by Spain to the cotton crop of the world. Samples of cotton grown during the last year are forwarded under separate cover.

ARTHUR S. HARDY, *Minister.*

MADRID, SPAIN, *February 10, 1905.*

MEXICAN TREE COTTON.

(*From United States Consul-General Parsons, Mexico City, Mexico.*)

I forward, at the request of J. J. Fitzgerell, of this city, a package containing six samples of tree cotton[a] from Don Hilario Cuevas, of San Luis Soyatlan, State of Jalisco, together with a small piece of cotton cloth said to have been made from this cotton by the Indian women of that town over fifty years ago. Mr. Fitzgerell sends me also, with an accompanying letter,[b] a translation of a report on the cultivation of the cotton tree, by Mr. Cuevas, who has distributed large numbers of the cotton seeds throughout the Republic for planting, with a view to the general introduction of the plant. I inclose also a copy of a letter on the same subject from Mr. Santiago Carter, an American citizen who has devoted some time to the study of this tree.

Mr. Carter and Mr. Fitzgerell express the belief that an investigation by the Department of Agriculture will show that tree cotton is immune from the boll weevil and that the staple is equal in every respect to that produced by the cotton plant of our Southern States.

An article in the Mexican Herald of July 13, 1904, indicates that in a test made some five years ago by a Massachusetts mill it was found that the fiber was very fine, but that the staple was not of sufficient length to permit the use of the cotton in the mill without a readjustment of the machinery.

In case the Department of Agriculture should desire to experiment with this tree, I am informed that it would be very easy to obtain seed, bark, roots, etc.

JAMES RUSSELL PARSONS, Jr., *Consul-General.*

MEXICO CITY, MEXICO, *July 15, 1904.*

Letter from Mr. J. J. Fitzgerell.

I desire to call your attention and the attention of the Government and people of the United States to the cotton tree, which grows wild and cultivated in almost every State in Mexico. I feel confident that investigation will show the tree cotton to be immune from the boll

[a] Samples on file in the Bureau of Statistics, Department of Commerce and Labor.
[b] All communications referred to by Consul-General Parsons are printed herewith.

weevil, its staple to be equal in every respect to the staple produced by the cotton plant of the Southern States, and its culture to be a commercial success.

There are several varieties of tree cotton, producing different lengths and grades of staple, as well as different shades, from pure white to a maroon. One variety, growing on the Isthmus of Tehuantepec under proper tropical climatic conditions, produces the staple continuously. Other varieties, under certain conditions of climate, produce one and two crops annually. On the highlands of the northern States of Mexico the tree withstands the frosts and cold weather successfully, putting forth leaves in the springtime and producing an annual crop of cotton. The seed and staple of the cotton tree are similar to those of the common cotton plant. The tree grows from 15 to 20 feet high and its trunk from 6 to 12 inches in diameter, and it may be described as a gigantic cotton plant. It is very hardy, withstands droughts and floods, and grows successfully on rocky, barren soil in the valleys and on the hills and mountain sides, as well as in the rich valleys and tablelands of vegetable humus of the tropics of Mexico.

To obviate the difficulty in gathering cotton from large trees the tree is kept trimmed back, like the coffee tree, so the product can be gathered by pickers standing on the ground. Tests have been made in tropical Mexico in planting the tree 12 feet apart each way. After the first year the shade destroyed the undergrowth, while the tree itself grew to a height of from 10 to 12 feet and was very prolific of cotton.

A sample of the staple, marked No. 1, of the inclosed sample, was sent to the secretary of the New Orleans Cotton Exchange for examination, and was by him referred to the chairman of the arbitration committee, who reported:

"This appears to be extra-staple cotton, which runs from $1\frac{5}{6}$ to $1\frac{1}{2}$ inches in length of fiber. It seems to be a good, strong-staple cotton, is superior to the average of ordinary growth in the United States, and should bring from 1 to 2 cents per pound more if properly prepared for the market."

In a separate package I herewith send you six samples of the tree cotton, marked from 1 to 6, for your examination. I should be glad to know the results of your investigation. These samples were received from Don Hilario Cuevas, of San Luis Soyatlan, of the State of Jalisco, who has also forwarded me a sample piece of cotton cloth made by hand by the native women of that town over fifty years ago. This piece of cloth formed the portion of a church banner used in church services. I inclose a small piece of the cloth for your examination.

I also inclose you a translation of a report on the cultivation of the cotton tree made by Mr. Cuevas. This gentleman is a public-spirited citizen, who has distributed large numbers of the cotton seeds throughout the Republic, with a view of the general introduction of the plant. I suggest that you communicate with him at any time. In view of the attacks of the boll weevil on the cotton plant in the United States, I respectfully suggest the importance of the introduction of the cotton tree in the cotton States of the United States.

J. J. FITZGERELL.

CITY OF MEXICO, *July 8, 1904.*

Report of Don Hilario Cuevas on the Mexican cotton tree.

The cotton tree of Mexico can be profitably cultivated on the same class of lands that produce the maguey de Tequila, and can be grown with equal success on plains, dales, hills, and mountain sides. I have just seen the cotton tree growing very finely on the Rancho La Cofradía, near the town of Tuzcueca, State of Jalisco. The ground consists entirely of rocks and sand, covered with a vegetable soil only a few inches in depth. The cotton tree occupies about the same space as the maguey plant and can be planted between the maguey rows. The expense of planting is no greater than the expense of planting corn.

The cotton tree is able to withstand droughts during eight months of the year. It is not attacked by the boll weevil, the great enemy of the ordinary cotton plant, which causes so much damage among the plantations in the northern portion of the Republic. It is planted once in from twenty-five to thirty years. A short time ago a tree was cut down, because it was in the way, that was planted at the time of Maximilian. It never failed in its production, nor was it attacked by any insect, nor had it suffered any other accident. The seed is planted at the beginning of the rainy season; at four months it is about 4 feet high and begins to blossom, and at the age of 2 years it is about 10 feet high, and the harvest then begins to be remunerative.

During the rigors of the dry season its foliage is always deep green, even where it is grown in very dry lands; if the lands were irrigated and care taken the crop obtained would be considerably increased. Completely abandoned, without cultivation or irrigation and without any care, I know of trees that produce annually one-half an arroba (1 arroba equals 25 pounds), not taking into account what is carried away by birds and by the wind. If planted in fertile soil, the proper distance apart, at the end of the third year, and sometimes before, the tree covers the ground with shade, preventing it from becoming dry and parched and keeping down weeds that would otherwise spring up, thus saving great expense.

The cultivation is very simple and economical, practically the only expense during the life of the tree being the harvesting of the crop, an expense that may be figured at about 1 cent per pound, owing to the cheap labor employed in this country.

There are four varieties of the cotton tree grown here. One variety yields two crops per annum, the first of which begins to mature in October and is harvested in December, while the other blossoms in the spring and ripens in May or June.

To the haciendas of the table-land and hill lands of Mexico the cultivation of the cotton tree is a very tempting proposition. Two to three year old trees grow to a height of about 10 feet and have a diameter of about 8 inches at the ground; the foliage covers a space of 90 square feet. The tree makes a fine shade for the coffee tree, one coffee tree being planted between every four cotton trees. The cotton trees are usually planted about 9 feet apart, in rows each way; in very fertile lands about 12 feet apart. The seed should be planted deeper than ordinary cotton seed, but in similar manner. The land can be plowed up as in planting ordinary cotton, but usually the rows are "listed" with one ordinary crop furrow. If the young trees are planted at the beginning of the rainy season, and cultivated in the ordinary manner, by October they will be 3 to 4 feet high, and at the

end of the third year they will form a forest that will completely shade the ground.

In view of the fact that the staple of the cotton tree is equal to the staple of the ordinary cotton, and the expense of planting, cultivation, and care of the cotton tree is so much less than with the ordinary cotton plant, while up to date no enemies have appeared, and as the world's supply of cotton is not adequate to the demand, it would appear that the cotton tree should command the attention of the haciendas of the Republic.

HILARIO CUEVAS.

Letter from Mr. Santiago Carter.

The cotton tree grows more or less over the entire slopes of the Mexican table-lands, on both Gulf and Pacific sides, from 3,000 feet above sea level down to the coasts, south of an east and west line running north of the State of Jalisco, except where the soil is too poor or the rainfall scarce. The best specimens I know are growing at the ranches of the Lacandon Indians, on the Lacanja River, an affluent of the Lacantum, which flows into the Umacinto in the Chilon district, State of Chiapas, at an elevation of some 2,000 feet above the Gulf of Mexico, on a deep forest loam over a clay subsoil ridged by limestone rocks. The next best are on the table-lands of Jalisco at about the same elevation.

The tree is a perennial, attaining a height of 30 feet. The leaf, form of growth, blossom, boll, and cotton are exactly like those of the cotton plant of our Southern States. The only apparent difference is in size and length of life. The plant is quite hardy. I have seen specimens that the Indians said were 30 years old. It makes a very durable cloth, and many Indians in the distant parts of Mexico spin and weave their clothing from it. It takes simple dyes well and resists rot. It does best in a temperate climate; the Tabasco damp heat dwarfs it, apparently, but it bears there. It is not affected at all by boll weevil, nor does it appear to have any insect enemies at all here. I believe that this tree, planted 15 feet apart, would produce a bale or more to the acre on good soil. There are two colors—one very white and the other slightly yellow.

I know four other kinds of so-called cotton tree—the well known Ceiba Bombax; the Pochote, a short brown staple; the Agara, a very short glistening silky staple, and one other, a shrub, but none resemble the cotton tree referred to at all.

In case the Department wishes to experiment with or study this tree, it will be very easy to get seeds, bark, leaves, roots, etc.

SANTIAGO CARTER.

Report of the Department of Agriculture on the samples of cotton transmitted by Consul-General Parsons.

Sample No. 1.—Staple 1¼ inches in length; somewhat variable, but sufficiently uniform for the loss in manufacture not to be very great. A fairly good, fine staple which seems to possess good spinning qualities. Would probably command from 1 to 3 cents per pound more than American upland cotton.

Sample No. 2.—Staple 1 to 1¼ inches in length; strong, rather silky, with good spinning qualities, though too variable in length, as well as scanty on seed. Would probably sell for about 1 cent per pound more than ordinary American short-staple cotton.

Sample No. 3.—Staple 1 to 1⅛ inches long. Very scanty on seed. Of fair quality and would probably spin well. Would rank with ordinary American short-staple.

Sample No. 4.—Staple three-fourths to 1¼ inches in length; too variable in this sample; would give a large percentage of waste. Fairly fine and strong and would probably spin well. Value about the same as that of medium grades of ordinary short-staple American cotton.

Sample No. 5.—Staple 1 to 1¼ inches long. Considerable short fiber, which would give some loss in spinning. Fairly fine and strong. Would compare favorably with ordinary short-staple upland and sell for about the same price.

Sample No. 6.—Staple 1⅛ to 1¼ inches in length. Fairly strong and rather coarse. Would probably spin well. Estimated value about 1 cent per pound above ordinary American short-staple. This is similar to the Peruvian cottons imported to some extent and used in mixtures with wool.

All of these samples show the lint very scanty on the seed and also a considerable quantity of short fiber, which would reduce the value of the cottons to some extent. In all but No. 6 the fiber is fine and silky and slightly longer than ordinary American upland.

In judging the probable utility of these tree cottons for cultivation in the United States, it must be remembered that they are all perennial, requiring several years to reach maturity, and could not be expected to produce a crop in a single season. They would have to be hardy enough to endure the winters in this country, which are of course quite severe throughout most portions of the cotton belt. All of the cottons cultivated in the United States, while really perennials, are grown as annuals, and are sufficiently short in season so that they mature a good crop before they are killed by frost. It is not probable, however, that any of the Mexican tree cottons have been sufficiently reduced in season to give a paying yield in the United States. The Department of Agriculture has grown a number of tree cottons from Mexico and Peru in South Carolina and Georgia, and in no case has it been possible to get them to produce seed. Indeed, the plants do not even produce flowers until the very last of the season, when they are liable to be cut off by frost at any time.

If these cottons are immune to attacks of the boll weevil, as is asserted, they might be of considerable value for crossing with our short-season varieties. It might be possible, also, by a few seasons of selection to reduce the period of maturity sufficiently to render their cultivation profitable in the United States. The Department is growing several of these cottons in Texas the present season, and if they give promise of value their cultivation will be encouraged. Their profitable cultivation in the United States seems, however, very doubtful.

H. J. WEBBER,
In Charge of Plant Breeding Laboratory.

A NEW HYBRID COTTON IN QUEENSLAND.

(From United States Consul Goding, Newcastle, New South Wales.)

Two new varieties of cotton have been evolved through hybridization by Doctor Tomatis, Ph. D., an Italian residing near Cairns, Queensland, which promise to revolutionize the growing of this useful plant. To these varieties Doctor Tomatis has given the names Caravonica I and Caravonica II.

Caravonica I is a cross between a long-stapled cotton of the sea-island variety, grown in Mexico, and the sea island of Peru, resulting in a perennial tree cotton, which attains a height varying from 10 to

FIG. 1.—Doctor Tomatis's cotton plantation at Caravonica, Cairns, Queensland.

14 feet. It is planted 7 by 7 feet apart, about 900 trees per acre. A tree 6 months old will attain a height of 7 feet and will bear a small crop the first season. A single tree is said to yield from 300 to 500 bolls in a season, these bolls being so large that 70 will weigh 1 pound, thus producing 1,200 pounds of clean ginned cotton per acre. An offer has been made in England to take all the cotton produced at 20 cents per pound on account of its superior qualities. Experts have pronounced it the best cotton yet grown, classing it as wool cotton. Caravonica II is a silk cotton and is of even greater value, 24 cents per pound having been offered, but the yield is not given.

As the yield of the first-named variety is so large and commands such a high price, I have thought it advisable to call the attention of

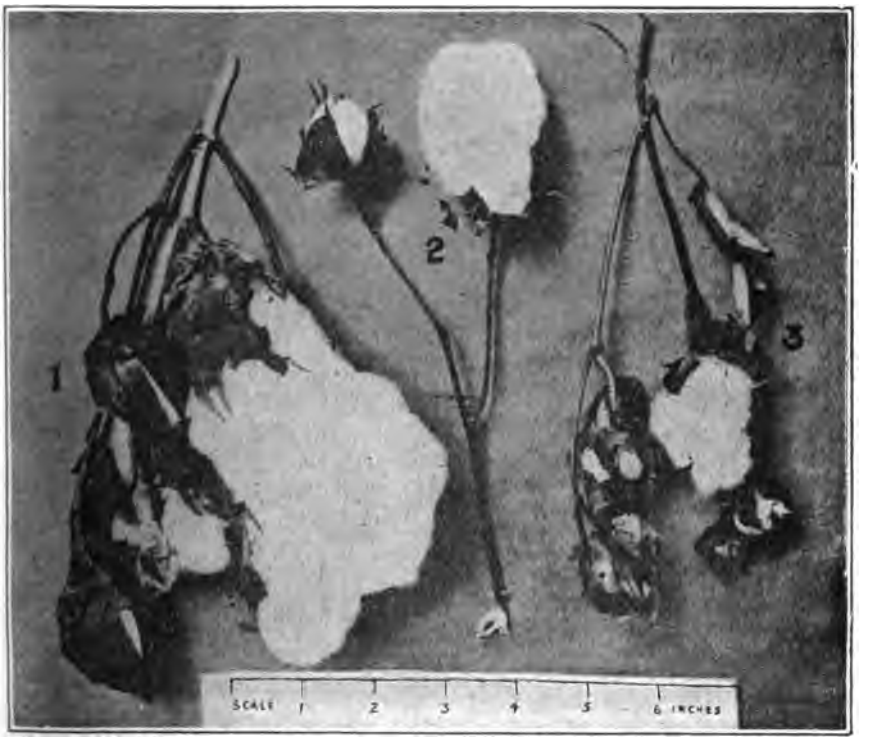

FIG. 2.—Samples of cotton grown by Doctor Tomatis. 1, Caravonica I. 2, Sir Morris hybrid. 3, Sea island.

our cotton growers to it. To give a clearer idea of the appearance of this cotton while growing, I append illustrations taken from Dalgety's Review.

F. W. GODING, *Consul.*

NEWCASTLE, NEW SOUTH WALES, *March 15, 1905.*

COTTON IN QUEENSLAND.

(From United States Consul Baker, Sydney, New South Wales.)

That part of Australia north of latitude 29° and east of longitude 138° is called Queensland, and has an area of 668,224 square miles and a coast line of about 2,500 miles. The mountain ranges run northwestward and have spurs jutting toward the ocean, none of which rise higher than 5,000 feet above sea level. There are numerous streams

having their sources in the mountains. The soil of the valleys is very productive and is suitable for sugar cane, maize, tobacco, coffee, and cotton.

In 1860 Queensland had, all told, only 14 acres planted in cotton, but in 1871 the area had increased to 12,962 acres. For some reason there was a decline in cotton culture until in 1886 there were but 15 acres, and the next year none at all. The total product from first to last was about 26,000,000 pounds.

Experiment seems to have established that the annual herbaceous American varieties are not suitable for the Southern Hemisphere. They mature in the rainy season, thus subjecting the pods to damage from dampness. Lately experiments have been made in hybridizing by Doctor Tomatis on his plantation near Cairns, Queensland. A cross has been obtained between a long-stapled cotton of sea-island variety grown in Mexico with a sea-island kind from Peru. The first named was chosen for the length, firmness, and gloss of its fiber, and the second for its length and strength. The result was a tree, or shrub, bearing prolifically large bolls of cotton resembling long, fine wool. Another result of the hybridization was the disintegration of the group of seeds, scattering them through the boll, facilitating the ginning. Doctor Tomatis has named the two new varieties thus obtained "Caravonica," after the name of his plantation. He is so well satisfied with his experiments that the area devoted by him to the culture of this remarkable cotton has been increased from 10 to 60 acres.

The seed is planted 7 feet apart in rows also 7 feet apart, and the plants are cultivated like fruit trees. It is recommended that between the rows a crop of quick-maturing grain or potatoes be raised. The cotton trees, however, when mature cover all the space, the branches touching each other across the rows. The bolls of the Caravonica are four times as large as those of other varieties and average 70 to the pound, 29½ per cent being clean lint, and 70½ per cent seed which is quite clean and flossless. A first crop may be gathered in six months, but the trees do not mature until 2 years old. At that age each bears from 300 to 500 bolls, and 900 trees may be grown to the acre.

This cotton tended to bloom in part from August to December and in part from January to June. The blooms that came out in the wrong season were at once destroyed. Thus Doctor Tomatis trained the tree to confine its blooming to the season of this hemisphere. The best pruning time here is February. Cutting back is essential in order to prevent the tree from bearing all the year. Were this permitted the life of the tree would be the sooner exhausted and crops would mature in the rainy season, damaging the cotton.

Since the success of Doctor Tomatis's experiments a greater interest

than ever has been awakened in the tropical part of Australia, but up to this date no extensive fields have been planted.

Some years ago an experiment was made in the United States with tree cotton, seed having been obtained from Africa, where it was found growing wild, but I have not heard of it recently, and judge that it did not fulfill the expectations of the promoters. Whether the Caravonica can be cultivated in Mississippi, Alabama, or Louisiana, as in Queensland, can be determined only by trial.

Taking into account the vast area in Queensland suitable for cotton culture, and the success of this primary experiment, England has hopes that at some future time she may be in a measure independent of American cotton fields. There is, however, the drought problem yet to be solved throughout the greater part of Australia. Only the rim of the continent has the rainfall necessary to successful agriculture, and the discouragements to immigration are so numerous and formidable that the increase of population is only a little above the excess of births over deaths, while the people who now inhabit the country seem unwilling to leave the cities to subdue the jungles of the tropical lands; so that the prospect is not great that Queensland will very soon control the cotton markets of the world. It is asserted that white men are unable to endure the labor required. One thing is sure, they are not at present inclined to fit the lands for culture, or even to cultivate them, if once subdued. Colored immigrants are prohibited by law, which further darkens the prospects of Queensland being able to develop her wonderful resources, while the labor laws and land laws do not seem to induce capitalists to invest money in either manufacturing or agriculture.

ORLANDO H. BAKER, *Consul.*

SYDNEY, NEW SOUTH WALES, *March 27, 1905.*

MAGNESITE AND MAGNESIUM CEMENT.

The following reports from Austria and Hungary, Belgium, Greece, and the United Kingdom are replies to an instruction to the consular officers at Vienna, Brussels, Athens, and London calling for information in regard to magnesite and magnesium cement. The instruction was sent at the request of American cement manufacturers. An additional report from Consul Hollis, of Lourenço Marquez, on magnesite in South Africa, is also printed herewith.

AUSTRIA.

(From United States Consul-General Rublee, Vienna, Austria.)

The only company operating magnesite mines in the Vienna district is the Veitscher Magnesitwerke Actiengesellschaft, which has its head office in Vienna. The works and the mines of the company are at Veitsch, about 5 miles from the Mittersdorf-Mürzthal railway station in the province of Styria. This is stated to be the principal company in the world operating magnesite mines. The production of magnesite by this company in the year ended June 30, 1902, was 59,450 tons, and 71,016 tons in the year 1903. For the current year the figures have not yet been issued. The average price per ton at the mine of crude magnesite is approximately $3.20 and for calcined magnesite $8. This company's exports of calcined magnesite to the United States during the years ended June 30, 1901 and 1902, were 30,000 and 35,000 tons, respectively. Only calcined magnesite is exported.

Inquiry made through the Vienna Chamber of Commerce, and also of all firms handling magnesite products, has failed to elicit information regarding either magnesium cement or "petrifite." The Veitscher Magnesitwerke Actiengesellschaft manufactures magnesite mortar, which is ground magnesite mixed with tar, and magnesite bricks, but the manager states that he knows nothing about magnesium cement or "petrifite."

W. A. RUBLEE, *Consul-General.*

VIENNA, AUSTRIA, *June 4, 1904.*

BELGIUM.

(From United States Consul Roosevelt, Brussels, Belgium.)

There are no magnesite mines or deposits of magnesium cement in this consular district. From Mr. Jules Dejaer, director-general of

mines, Brussels, I learn that deposits of dolomite (double carbonate of lime and magnesia) are worked in Belgium, and principally employed in the manufacture of Thomas steel.

There are no records in the custom-house at Brussels showing importations or exportations of magnesite or magnesium cement products. Magnesite comes under the head of "Mineral substances—crude," not specially classed.

GEO. W. ROOSEVELT, *Consul.*

BRUSSELS, BELGIUM, *April 15, 1904.*

GREECE.

(From United States Consul McGinley, Athens, Greece.)

There are but two companies operating magnesite mines in this district at the present time, the Anglo-Greek Magnesite Company (Limited), of 24 Finsbury square, London, England, and the Society of Public Works, Athens. The first-named operates the magnesite quarries of the Monastery Galataki, on the island of Eubœa, about 10 miles from the port of Limni, where the magnesite is loaded upon vessels. The output of the quarries of Galataki during 1902 and 1903 was as follows, in tons:

Magnesite output of Galataki quarries, and exports to the United States, 1902 and 1903.

Year.	Raw magnesite.		Caustic calcined magnesite.		Dead burnt magnesite.
	Output.	Exported to the United States.	Output.	Exported to the United States.	
1902	14,600	6,647	3,500	578	.....
1903	26,300	3,200	3,550	125	1,200

The Society of Public Works of Athens is working the underground magnesite mines of Mantudi and Limni, on the island of Euboea; the officials of this company curtly refused to give any information concerning the production of their mines or their exports, but the records of this consulate show that the company invoiced shipments to the United States amounting to 7,390 tons of magnesite and 98 tons of firebrick in 1902, and 2,335 tons of magnesite in 1903.

The local agent of the Anglo-Greek Magnesite Company (Limited), Mr. G. F. Harr, very kindly furnished all the information required, except the methods of manufacture of magnesium cement and so-called "petrifite," of which he expressed ignorance. He said that the home office of the company, at 24 Finsbury square, London, might be able to furnish this information, and also addresses and locations of companies manufacturing magnesium cement and petrifite. Mr. Harr

states that calcination of magnesite, to produce both caustic and dead burnt, has increased to a large extent, and that about one-half of the output of raw magnesite is now calcined before shipment.

Competition between the two companies named has reduced the prices of Greek magnesite, and at present they are 16 francs ($3.09) for raw, and 65 francs ($12.55) for caustic calcined magnesite, per ton, free on board steamer in Greece. In 1899 the price of raw magnesite f. o. b. was 23 francs ($4.44). The freights from Greece, per ton, are as follows: To England and other European countries, about 14 francs ($2.70); to the United States, 15 francs ($2.90). In 1899 they were 17 to 20 francs ($3.28 to $3.96) to England, and 23 francs ($4.44) to America. England, Germany, Holland, and France are the leading purchasers of Greek magnesite.

In addition to its uses for making or lining metallurgical furnaces for the process of Bessemer steel making, for manufacturing artificial cement from magnesium soils, for making fire brick, etc., it is now being used as a source of carbonic acid for aerated waters, and the demand for it for this purpose is rapidly increasing.

Besides the above-named companies, Mr. B. Boudouris, ex-minister of marine, Athens, is the owner of a magnesite deposit on the island of Euboea, but he does not work his quarry.

Exporters of Greek magnesite have to pay harbor dues and 10 per cent on the net profit obtained from magnesite exported annually.

DANIEL E. MCGINLEY, *Consul.*

ATHENS, GREECE, *September 8, 1904.*

HUNGARY.

(From United States Consul Chester, Budapest, Hungary.)

At request of the consul-general in Vienna, the following information is transmitted:

According to the firm of Alexander & Liebermann, forwarding agents and lessees of magnesite mines, the production of magnesite in Hungary in 1903 was only about 7,000 tons, while the productive capacity was 27,000 tons, as follows: Hungarian Magnesite Industry Company (Limited), (formerly Paul Mansfeld), 15,000 tons; Alexander & Liebermann, 5,000 tons; Freund (formerly United Gömör County Company), 4,000 tons; Friedmann, Grünfeld & Co., 3,000 tons; total, 27,000 tons.

The Royal Hungarian mining captain at Igló furnishes me with the following list of magnesite mine owners in Hungary:

Budapest.—Alexander Liebermann; Magnesite Company (Limited); Rimamurány Lalgótarján Iron Works; Hungarian Magnesite Products Manufacturing Company (Limited).

Hacsava.—Magnesite Industry Company (Limited).
Jolsva.—Aaron Friedman; Alexander Roth.
Kassu.—People of the city of Kassu.
Nyustya.—United Gömör Magnesite Company (Limited).
Rathkó.—Martin Grünfeld; Dr. John Davis.
Szirk.—Hungarian Magnesite Manufacturing Company (Limited).

The average price per ton of crude and calcined magnesite at the mines, which are in Gömör County, with few exceptions, varies according to the situation of the mine with respect to the railroad, the manipulation of the material contracted for, and the fee or per cent of the selling price demanded by the town controlling the mine. At Jolsva, for instance, the Hungarian Magnesite Industry Company (Limited) pays 1.20 crowns (24.36 cents) to the town and charges 1.80 crowns (36.54 cents) per ton for its work in mining the ore—total, 3 crowns (60.90 cents) per ton. To this must be added 2 crowns (40.6 cents) for transportation from the mine to the company's works. From 3½ tons of ore 1 ton of calcined magnesite is prepared, which costs, delivered at the Jolsva railway station, $6.43. At Nyustya the calcined magnesite of Mr. Freund (formerly United Gömör County Company) is quoted at $6.15 per ton, but the product is considered too full of lime and other materials. At Ochtina Messrs. Alexander & Liebermann quote their product at $5.22. Fault was found with their product by a Pittsburg purchaser, and a long-standing contract was canceled, much to the detriment of Hungary's export and the benefit of Greek and Austrian exporters.

In 1903, according to Alexander & Liebermann, the total quantity produced (7,000 tons) was exported. That more was not produced and exported was due to the entire renovation of the Hungarian works, as a result of the complaints of the American buyers. The Royal Hungarian statistical bureau gives the following figures for the calendar year 1902:

Imports of magnesite into Hungary in 1902.

Kind and country.	Quantity.	Value.
CRUDE.	*Pounds.*	*Dollars.*
Austria	37,919	87
Germany	18,078	41
CALCINED.		
Austria	484,932	10,161
Germany	46,097	508
Total	587,026	10,797

Exports of magnesite from Hungary in 1902.

Kind and country.	Quantity.	Value.
CRUDE.	*Pounds.*	*Dollars.*
Holland	536,369	1,059
Germany	46,297	93
Bosnia	882	2
CALCINED.		
United States	18,330,807	100,582
Germany	4,533,312	19,388
France	895,949	4,916
Russia	750,005	4,115
Belgium	515,915	3,960
Great Britain	709,881	3,895
Austria	506,838	2,781
Italy	289,508	1,843
Switzerland	22,046	121
Holland	12,346	68
Sweden	12,125	67
Servia	220	1
Total	27,112,500	142,891

Preliminary statistics for the year 1903 show an import of 30,423 pounds of crude and 581,353 pounds of calcined magnesite, or a total of 611,777 pounds, valued at $6,449. The exports in 1903 were 16,906,635 pounds, almost all calcined, valued at $92,690. Preliminary statistics for the first quarter of 1904 show an import of 61,288 pounds, chiefly calcined, valued at $638, and an export of 3,751,347 pounds, all calcined, valued at $20,580. The import in 1904 at this rate has fallen to one-tenth of that of 1903, while the export is maintained practically at last year's figures.

In Hungary magnesite cement, made of fully calcined ore, and magnesite mortar, made of half-calcined ore, are distinguished. The first is prepared at a temperature of 1,570° to 1,600° Cel., entirely cooled, and ground to a fine dust. The second is made at a temperature of only 700° to 750°, and is likewise ground. The former is used for lining the bottoms and sides of smelting furnaces, the latter (caustic) for laying the magnesite fire bricks when making such furnace. The cement is prepared by the Hungarian Magnesite Industry Company, at Jolsva, and by Alexander & Liebermann, at Ochtina.

The former company prepares bricks and other products of cement, but the charge has already been made, says Mr. Liebermann, that some of the bricks were made of Freund's magnesite from Hacsava (near Nyustya), and found fragile and not compact. The complaint against their Jolsva bricks has been that they contained too much iron and silicates. The former Pittsburg buyer of Mr. Liebermann's Ochtina bricks purchased some 2,400 tons annually, as the best in the market. Germany also purchased the Ochtina magnesite bricks prepared by the Nyustya company previous to its purchase by Freund. The last-named gentleman has attempted to put on the market technically better bricks, but his efforts are unavailing to win the American trade, so

much desired, since there is still 10 to 15 per cent of silicates to be found in them. The State statistician still classifies fire bricks as clay wares; hence, there are no official figures as to Hungary's export of magnesite fire bricks.

In August, 1901, the Magnesite Company (Limited), of Budapest, published the first of a series of "communications" regarding the Hungarian and Austrian products. In this publication it is stated that the magnesite ore in Hungary is made to yield some of its peroxide of iron, the presence of which lowers the refractory power of the calcined magnesite. It is also stated that the percentage of silica and lime are reduced by the calcining process. Finally, it is said that the magnesite flour (mortar?) is pressed hydraulically and recalcined during the manufacture of the bricks, with the result that the percentage of oxide of magnesium in the cement and mortar is raised to 90 or 91 and in the bricks to from 91 to 94. On the other hand, the percentage of silica is lowered to from one-half to one-fifth and of lime to from $2\frac{1}{10}$ to $1\frac{1}{2}$. The question arises therefore as to whether magnesite ore is not really purified by complete or even partial calcination according to the process used.

PROPOSED NEW MINING LAW.

It is expected that the Parliament of Hungary will shortly pass a new mining law, as the old one, dating from the period of Austrian rule (1849–1866), is antiquated. It is possible that this new law will regulate not only the mining of the precious metals, but also the mining and quarrying of other metals and minerals.

FRANK DYER CHESTER, *Consul.*

BUDAPEST, HUNGARY, *May 19, 1904.*

UNITED KINGDOM.

(From United States Consul-General Evans, London, England.)

I have made inquiries in regard to the production and manufacture of magnesite and magnesium cement in the United Kingdom through the associated Portland cement manufacturers, a combination of all the principal cement manufacturers, and can sum up the reply to my inquiries as follows:

Cements of this class are so little used that we have had no occasion to familiarize ourselves with their characteristics. Much was said about "petrifite," when first introduced some years ago, but, so far as we know, it is not used in a commercial way. Whether any has been manufactured and sold on a commercial scale we are unable to say. We have never met with it, nor do we hear of it in the course of business. We believe that its manufacture is the subject of a patent, and that it was to be prepared from certain volcanic deposits found in one

of the islands of the Grecian Archipelago. We do not know the names of any company or persons manufacturing magnesium cement or its products.

H. CLAY EVANS, *Consul-General.*

LONDON, ENGLAND, *April 28, 1904.*

MAGNESITE DEPOSITS IN SOUTH AFRICA.

(From United States Consul Hollis, Lourenço Marquez, Portuguese East Africa.)

In the neighborhood of Malelane and Kaapmuiden, 100 miles from Lourenço Marquez, close to the railway line, large deposits of magnesite that is said to equal the best Grecian magnesite have been found, and a company has been formed to work and develop them. I understand that there is a considerable demand for magnesite in the United States, and if that is the case American importers of this mineral will be able to import it very cheaply from Lourenço Marquez, as all of the vessels that come here from the United States with cargo have to leave this port in ballast on account of the lack of homeward freight, and many of these vessels would be glad to get cargoes for the United States at nominal rates of freight.

The following clipping from the Gold Fields News of September 20, 1904, more fully describes this new Transvaal industry:

During last month there was registered in Pretoria a new company under the style and title of the Magnesite Mines of South Africa, with a nominal capital of £200,000 [$973,300] in 200,000 shares of the nominal value of £1 [$4.8665] each.

The company has been formed for the purpose of acquiring and working certain deposits of the rare mineral known as magnesite, situated in the neighborhood of Kaapmuiden and Malelane stations, and running parallel with the Delagoa Bay Railway and within 1 or 2 miles of it.

The distribution of the capital of the company is as follows, in shares: To the vendors, 120,000; for working capital, 40,000; in reserve, 40,000; total shares, 200,000. The working capital has been guaranteed at par, and there is no call or lien on the reserve shares.

The ground forming the nucleus of the present company was acquired about a year ago. Since then the holdings have been gradually increased by the acquisition of—with perhaps one exception, negotiations with reference to which are still pending—all the known deposits worth touching in the country, and the blocks of ground which have been transferred to the company, roughly speaking, cover an area of about 8 miles long by a mile and a half wide. During the year which has passed thousands of claims have been submitted containing and said to contain deposits of magnesite until practically the whole of the profitable areas has been secured.

Besides the railway running parallel with the principal holding at about a mile and a quarter distant, the Crocodile River also runs parallel with it; the northeastern portion of the ground, the section nearest

Malelane, actually rests on the river. The deposits are located on the first ridge of hills to the south of the railway and are therefore most favorably situated for economic working.

Like other minerals discovered in the Transvaal, this rare mineral occurs on no mean scale, for the Kaapmuiden-Malelane deposit bids fair to surpass any yet known. The principal known deposits of the world are in the island Euboea (Greece), Styria (Austria), Hungary, and Germany, and recently a deposit in California has been opened up. The purest known magnesite is produced in Euboea, but the magnesite of Kaapmuiden-Malelane, according to analyses and tests, is equal to the best quality found in Euboea.

As already stated, the magnesite deposits are located on the range of hills to the south of the railway line and the Crocodile River, the height of the hills above the line being about 300 feet. From the top of the hills there is a gentle slope toward both the railway and the river, which will greatly facilitate the mining work and transport.

The veins of magnesite are of varied width, in many places being more than 100 feet in thickness, but the central hill near what is known as Salt Creek appears to be one vast deposit about 2,000 feet long by 200 feet wide, and upward of 300 feet high. According to the estimate made by the consulting engineer, the deposits of magnesite at this particular point exceed a million tons. The topographical position of the magnesite hills is such that the deposits can be quarried at a very low cost.

The managing director and the consulting engineer left by last mail for Europe for the purpose of visiting the principal magnesite mines and works in Europe, in order to gain information as to the latest and most suitable machinery to be laid down, and to select a technical manager to superintend the erection of kilns, grinding, sifting, and bagging plant, and the proper preparation of the various manufactures for the market.

W. STANLEY HOLLIS, *Consul.*

LOURENÇO MARQUEZ, PORTUGUESE EAST AFRICA,
September 22, 1904.

NOTES.

Coal Beds of Ireland.—A parliamentary paper, with a report by Prof. Edward Hull on the coal beds of Ireland, has just been issued. There are only two districts in which there are important deposits—County Tyrone in the north and the counties of Kilkenny, Queens, and Carlow in the south. In Tyrone there are several valuable coal seams, with an aggregate thickness of about 30 feet, near the western shore of Lough Neagh. A seam 4 feet thick at Drumglass was worked formerly, but an influx of water from old workings drowned out the mine. There is but one mine now operated, and that is by a pottery company to obtain fuel for its works. Professor Hull remarks that "want of enterprise and capital appears to prevent the opening of a large mineral field in this country capable of supplying fuel to the mills and factories of the surrounding country." He estimates that there are some 27,000,000 tons of coal in the Tyrone district, while the total available supply in all Ireland is put at 174,458,000 tons.—*S. S. Knabenshue, Consul, Belfast, Ireland, April 7, 1905.*

Foreign Trade of Cuba.—The German ministry for the interior invites German manufacturers and exporters to call at its office to view samples of manufactured articles which are in demand in the markets of Cuba. The official journal of the ministry speaks of the growing sales of American goods in Cuba, and says that American fashions and styles are beginning to dominate there instead of the formerly existing Spanish modes. The journal notes the decreased German exports to Cuba, especially of cotton textiles, which can not compete successfully in that market with the products of England, Spain, Italy, Belgium, and the United States. The latter country could largely increase its sales if American manufacturers were to adapt themselves to the taste of the Cuban consumer.—*Richard Guenther, Consul-General, Frankfort, Germany, March 30, 1905.*

Commercial and Technical Experts as Attachés to Consulates.—The chamber of commerce of Düsseldorf, in its annual report to the minister of commerce, expresses its satisfaction with the increased number of appointments of German commercial and technical experts as attachés to the consulates of the Empire, saying, "We see in this the first steps toward a methodical organization of an infor-

mation service; for a single commercial attaché, as at present, in such an important field of work as the United States is quite insufficient, it being impossible for him to overlook the mighty economic system of that country. We should have an expert located in every important trade center of the United States." The report inclines to the opinion that these attachés will prove good substitutes for German chambers of commerce in foreign countries.—*Richard Guenther, Consul-General, Frankfort, Germany, April 4, 1905.*

Coal Discoveries in Canada.—One of the most promising coal discoveries in Nova Scotia in recent years is reported from the property of the Standard Coal and Railway Company near Parrsboro. The boring is down 2,350 feet, and although accurate information is not available, it is believed that a good deposit has been discovered, the drill having gone through 8 feet of coal. The prospectors are using a cable drill, which cuts up the coal into powder and thus makes it difficult to ascertain the exact thickness of the seam reached. Using this drill they can only tell the depth by measuring the cable that has gone down, and that is inaccurate. The company proposes to put in a calyx or diamond drill, which will take up the core, and thus enable them to accurately measure the thickness of the seam.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, April 18, 1905.*

Railway Rolling Stock in Italy.—It is proposed to expend $8,000,000 on new rolling stock on lines which are Government property, orders to be placed with the national industries, except for material which is not produced in Italy or which can not be supplied by the home industries. There is a proviso, however, that whenever prices or conditions should prove unacceptable, or for other reasons inconveniences should be met, tenders will be invited from foreign countries. Offers will probably have to be made to the minister of public works at Rome.—*Harlan W. Brush, Consul, Milan, Italy, March 15, 1905.*

Corn and Beans Free of Duty in Costa Rica.—Owing to a shortage in the present crop, corn and beans are temporarily exempted from import duties. The exemption goes into effect May 1, and is to continue until December 31 of the present year.—*John C. Caldwell, Consul, San José, Costa Rica, April 26, 1905.*

Germany's New Commercial Treaties.—The Association of Saxon Manufacturers has written to its members, asking their opinion as to the probable effects of the new German treaties upon the manufacturing and exporting interests of Germany. Of the 357 firms which have

so far sent in replies, 9 expect favorable results from these treaties, 97 think that present conditions will not be much affected thereby, and 251 believe the export trade will be seriously injured and to some countries will become almost impossible.

The convention of merchants at Bremen has declared in favor of continuing the "most favored nation clause" with transoceanic countries, as otherwise tariff wars might ensue which would injure Germany's shipping interests, her manufacturing and export trade, and give her competitors great advantages in foreign markets, which, once lost, are hard to regain.—*Richard Guenther, Consul-General, Frankfort, Germany, April 11, 1905.*

Canadian Savings Banks Deposits.—There are 213,638 depositors in the savings banks of Canada, and they have to their credit $60,771,126, which indicates a widespread habit of thrift. As a rule these institutions receive comparatively small sums from wage-earners and people who possess but little, yet the average savings of Canadian depositors is $289.14, and is the second highest in the world, the United States coming first, with an average of $418.89. The per capita deposit of the Dominion is $10.99.—*James H. Worman, Consul, Three Rivers, Quebec, April 17, 1905.*

Canadian Immigration.—More than 18,000 immigrants landed at this port during the past year. A pleasing feature was the large number of English, Irish, and Scotch among the second and third class passengers, all fine-looking people; there were large numbers of other Europeans, too, but a more respectable lot than usual. The majority were English and came to settle in the Northwest Territories.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, April 18, 1905.*

Message of President Diaz.—Under date of April 5, 1905, James Russell Parsons, jr., United States consul-general at Mexico City, transmits a printed copy, in English, of the semiannual message of President Diaz to the National Congress, which is on file in the Bureau of Statistics, Department of Commerce and Labor, where it may be consulted by persons interested.

Working the Spitzbergen Coal Mines.—According to statements in leading Norwegian newspapers, the coal fields of Spitzbergen, after experimental mining in previous seasons, have been found of sufficient value to justify more extensive operations. An expedition has been

fitted out at Sheffield, England, in which also some Norwegian capital is invested, and the leader has arrived at Trondhjem, where he is hiring men and buying provisions. About seventy men are engaged. It is the intention to erect eleven buildings, to be brought over ready-made, and when set up to be used for lodgings, sheds for machinery, etc. The larger part of the machinery is to be brought from England. The expedition will start from Trondhjem in May.

There is said to be an excellent harbor near the mines. A wharf will be built and connection made by a funicular wire railway with the mines, which are located at some elevation on the mountain. It is thought that the summer season will pass in making preparations, and that but little actual mining will be done before the winter sets in. After the shafts have been sunk, cold weather will not present any serious obstacles to the work. The capital invested is about $150,000.—*Henry Bordewich, Consul-General, Christiania, Norway, April 13, 1905.*

Sample Goods Swindlers.—A German trade journal warns exporters and manufacturers against certain swindlers who offer their services as selling agents, or commercial representatives, to obtain orders if supplied with samples, which, if sent, they proceed to sell and pocket the proceeds. Most of the applications come from South Africa. The journal adds that numerous complaints have come from German firms who have been thus victimized. It advises dealing only with well-known and respectable firms when entering upon new business with South Africa. Americans will do well to note this warning.—*Richard Guenther, Consul-General, Frankfort, Germany, April 6, 1905.*

Disease of Horses in France.—In the publications of the Imperial German health office it is stated that for some time past a disease has been prevalent among horses in the northeastern part of France, adjacent to Belgium and Germany, which is called "contagious pernicious anæmia." Professors Vallé and Carré at Alfort have investigated this disease very thoroughly and shown by experiments that it it transmittible. It seems to be caused by minute bacilli which can not be distinguished at present even with the most modern technical appliances. The German foreign office called attention to the disease by publishing a notice in the newspapers cautioning against purchasing horses from the infected districts of France, and the chancellor of the Empire has now issued a circular to the governments of those States of Germany which are likely to import German or Belgian horses, and has called attention to the danger of introducing the disease into German territory.—*Richard Guenther, Consul-General, Frankfort, Germany, April 14, 1905.*

British Brewing Statistics.—An analysis of a Government publication giving brewery statistics for the United Kingdom shows that 2,939 firms, producing 38,855,000 barrels of beer annually, used, besides malt and malt substitutes, very large quantities of rice, Indian corn, and similar preparations. Only 2,414 brewers, producing 3,199,000 barrels of beer, used malt and hops only. Although there are 5,353 licensed brewers in Great Britain, 25 firms produce one-third of the total quantity of beer on which duty is paid.—*Marshal Halstead, Consul, Birmingham, England, April 3, 1905.*

Population of Costa Rica.—Under date of April 15, 1905, United States Consul John C. Caldwell, San José, reports that the population of Costa Rica on December 31, 1904, as estimated by the Government statistical office, was 340,062, a gain since December 31, 1903, of 17,444, or 5.4 per cent. The population of the city of San José on December 31, 1904, was 24,500.

Foreign Cottons in Egypt.—According to the Egyptian Trade Review, the value of textiles imported into Egypt in 1904 amounted to $12,558,655, against $9,916,550 in 1903. These textiles are mostly cotton fabrics (Manchester goods), and 89 per cent of the entire amount was furnished by England. In 1902 England supplied even 93 per cent of Egypt's imports in textiles, but since then Italy, Germany, and Austria-Hungary have reduced England's share. The following figures denote the value of textiles imported from the different countries into Egypt in 1904: England, $10,684,210; Italy, $494,810; Germany, $266,635; Austria-Hungary, $194,785; France, $120,130; Turkey, $16,055; United States, none.—*Richard Guenther, Consul-General, Frankfort, Germany, April 14, 1905.*

Sulphate of Ammonia from Peat.—It is stated in the engineering supplement of a recent issue of the London Times that so encouraging have been the results obtained during the past two years at an experimental plant near London, in tests of the process of Messrs. Eschweiler & Woltereck for utilizing peat for the production of sulphate of ammonia, that £30,000 ($145,995) is now being spent on a complete recovery plant in the midst of the peat lands of Carnlough, Antrim County, Ireland. While the drawback to the use of peat as an industrial material has hitherto been the difficulty and expense of freeing it from its inherent moisture, it is claimed that the presence of up to 50 per cent of moisture is a positive advantage in the new process, and that there is a recovery of 68 per cent of free ammonia in the form of the sulphate, which is a valuable fertilizing agent.—*Marshal Halstead, Consul, Birmingham, England, April 19, 1905.*

Labor and Wages in Chinese Cotton Factories.—German papers state that a working day in the Chinese cotton factories is thirteen and one-half hours; night shifts work ten hours. The abolition of night work has been agitated, with the result that only a few mills now run day and night. Many cotton factories at Shanghai still pay by the piece, and the workingmen earn the equivalent of but 12 cents American per day.—*Richard Guenther, Consul-General, Frankfort, Germany, April 14, 1905.*

World's Dependence on American Raw Cotton.—The annual report of the Düsseldorf Chamber of Commerce for 1904 speaks of the proceedings of the international congress of cotton goods manufacturers, held last May in Zurich, to which the United States was not invited, as the object of the meeting was to devise ways to become independent of the United States cotton supply. Altogether, says the chamber, the world is getting to be more and more dependent upon American raw materials, and at the same time has to meet the growing competition of American manufactured products; hence the natural desire to become independent of the American raw-material markets. The Southern Cotton Corporation, says the report, has invited the European manufacturers of cotton goods to hold another congress in the United States, but it is self-evident that the Americans would use the congress to impede the initiated movement for the cultivation of cotton outside of the United States.—*Richard Guenther, Consul-General, Frankfort, March 25, 1905.*

Protection of Miners in Peru.—By a decree dated March 17, 1905, it was made incumbent upon the Government corps of engineers, known as the Cuerpo de Ingenieros de Minas, to investigate the system of exploitation employed in the mines at Cerro de Pasco, and to submit to the Government an opinion as to the precautions which should be used by mining enterprises there to protect the life and welfare of the miners. The corps are further instructed to formulate a special set of rules to guide owners of mines situated in the region immediately outlying the town of Cerro de Pasco. The text of the decree states that although the power to protect the life, safety, and welfare of miners is usually vested in the nearest local authorities, the Government finds it necessary to place this matter directly in the hands of the Cuerpo de Ingenieros, because of the numerous accidents which have occurred in the mines at Cerro de Pasco.—*A. L. M. Gottschalk, Consul, Callao, Peru, March 21, 1905.*

Agricultural Machinery wanted in Hungary—Under date of May 1, 1905, United States Consul-General Frank D. Chester, Budapest, Hungary, reports that Mr. Francis Waetier, jr., Elek, Arad, Hungary, wishes to buy, for sale in his vicinity, motor plows and other agricultural machinery.

Tenders for Railway Shops in New Brunswick.—A telegram from Moncton states that tenders are shortly to be invited by the Intercolonial Railway for large new shops to be erected here, also a new building for stores and offices for the mechanical department. The new shops will cover a space of 150 by 643 feet, and will be among the most complete in Canada. The erecting shop will have 24 pits, and will have a 130-ton electric crane for lifting locomotives, besides other first-class equipments. The new buildings, it is said, will cost several hundred thousand dollars.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, May 6, 1905.*

Export Duties on Ivory Nut in Colombia.—Under date of April 22, 1905, United States Consul Luthur T. Ellsworth, Cartagena, Colombia, reports that the Colombian Government has issued a decree to the effect that ivory nut, or vegetable ivory, when exported from ports on the Pacific Ocean, shall pay a duty of 75 cents gold per 100 pounds; when exported from other ports it shall pay a duty of 35 cents per 100 pounds. This decree goes into effect as soon as it has been promulgated at the various custom-houses.

German and American Interests in Cuba.—Under date of March 25, 1905, United States Consul-General Richard Guenther, Frankfort, Germany, transmits the following translation from the annual report of the Düsseldorf Chamber of Commerce for 1904, relative to German and American interests in Cuba:

German press, investment, and commercial circles have not sufficiently appreciated the great opportunities offered by the purchase of land in Cuba and the cultivation of sugar cane there. As yet land can be purchased at low prices, but if the opportunity is not seized the United States capitalists will obtain all the plantation lands, which will also secure to American manufacturers the orders for machinery and other equipments used in the cultivation of cane and of other products of the soil. The United States has an advantage over other nations through the preferential tariff rates accorded it by Cuba. Owing to this, many German articles can not be exported to Cuba, and in order not to be crowded back still more the German Government should work with all its might to secure from Cuba such tariff terms as will allow German exporters to maintain their position in the Cuban markets.

Mexican Currency.—The following translation of a telegram from the City of Mexico to the Correo de la Tarde, of Mazatlan, is transmitted by United States Consul Louis Kaiser, Mazatlan, under date of March 28, 1905:

The Daily Official of yesterday [March 27] publishes the decree relative to the money reformation, according to the basis already known.

The following money will be minted by the Government: Gold, 10 and 5 pesos; silver, 1 peso, 50 cents, 20 cents, and 10 cents; nickel, 5 cents; bronze, 1 cent. The minting of money for private parties will be suspended, except for exportation.

Fractional currency will be legal only to the amount of $20 in each payment of $1,000. Obligations contracted to be paid in foreign currency will be paid with their equivalent in Mexican money at the rate of exchange prevailing on the day of payment. There is a reserve fund constituted of $10,000,000 to regulate the circulating currency.

This law goes into effect in May, 1905, but the free coinage of silver ceases on April 16, 1905.

Electric Apparatus for Medical Use.—The Toctos Medical Company, No. 1 Corso Romana, Milan, Italy, wishes catalogues and prices from American manufacturers of electric apparatus for medical use, particularly body apparatus.—*Harlan W. Brush, Consul, Milan, Italy, April 16, 1905.*

Tenders for Canadian Contracts.—Under date of April 20, 1905 United States Consul-General W. R. Holloway, Halifax, Nova Scotia, transmits the following:

The board of control, Toronto, is asking for tenders for the furnishing and erection of a 5,000,000 or 6,000,000 imperial gallon triple expansion fly-wheel pumping engine for waterworks purposes.

Frederic Nicholls, Toronto, president of the Toronto and Hamilton Railway Company, will receive tenders for the grading, culverts, masonry, bridges, etc., required between Toronto and Niagara Falls, Ontario.

C. J. Brown, city clerk, Winnipeg, Manitoba, is inviting tenders for the supply of 1,750 tons of water pipe.

American Indian Corn for Hungary.—On August 9, 1904, I cabled the Department as follows: "There is an opening here for hay, straw, and corn, via Fiume." This cablegram was printed in the Daily Consular Reports for August 29, 1904, No. 2042. I have now to report the arrival of the steamship *Eros*, from New Orleans, at the port of Fiume, with 140 carloads of Indian corn destined for Budapest.—*Frank Dyer Chester, Consul-General, Budapest, Hungary, March 30, 1905*

Canadian Plants Moving to the United States.—According to the Guelph Herald of May 3, 1905, the Raymond cream separator factory of this city (Guelph) is to be moved to the United States. In connection with the cream separator company is the Raymond Sewing Machine Company, long established in Canada as one of the leading sewing machine concerns of the Dominion. Owing to the competition of several American sewing machine companies, the Raymond people are seriously considering the removal of their entire plant to the United States. In the past few years the business of the cream separator department has decreased fourfold, and the management have about decided to remove the factory across the border.—*Howard D. Van Sant, Consul, Guelph, Ontario, May 6, 1905.*

Japanese Trade Conditions.—The New South Wales commercial agent in the East, in a recent report to his Government, says that the trade of Japan is sound, and expanding. The imports largely consist of raw cotton, wool, sugar, rice, kerosene, steam vessels, machinery, and engines; the exports, silk, coal, matches, tea, cotton yarns, and copper. The Government is doing everything in its power to encourage local industries, particularly shipbuilding, and the manufacture of iron, cotton, and woolen goods. Cheap labor is an element which is greatly in favor of the Japanese. They will always be large importers of raw materials, and the duties on raw materials needed in manufactures are very moderate. He further states that when peace is declared Siberian grain and butter will flood the eastern markets.—*F. W. Goding, Consul, Newcastle, New South Wales, March 29, 1905.*

German Trade with Morocco.—According to German statistics, Germany's direct exports to Morocco in 1903 were valued at $963,424, but it is claimed that German goods go to Morocco through English, French, Belgian, and Italian firms. The imports as given exceed German exports to Morocco in 1902 by nearly $714,000. Germany's imports from that country were valued at $1,099,084 in 1903, an increase of $229,000 over those of 1902. German goods shipped to Morocco consist chiefly of textiles, firearms and munitions, ironware, and confectionery. In 1903, 534 German ships, of 426,123 registered tonnage, visited the ports of Morocco.—*Richard Guenther, Consul-General, Frankfort, Germany, April 12, 1905.*

Celebes-Guam Cable.—German papers contain a telegram from Menado which states that the cable steamer *Stephan*, of the North German cable works of Nordenham, has successfully and quickly

completed the laying of a cable between Menado-Yap and Guam for the German-Holland Telegraph Company, of Cologne. The length of this cable is nearly 2,000 miles, its weight about 4,000 tons, and the greatest depth attained 2,300 feet. By this cable the Dutch-India colonies and the German Carolines are placed in communication with the American Pacific cable. The *Stephan* is now proceeding to Shanghai to lay a cable, 130 miles in length, along the coast, which will form a part of the Shanghai-Yap cable, of which the main line is now being constructed by the North German cable works and which will be laid next winter.—*Richard Guenther, Consul-General, Frankfort, Germany, April 29, 1905.*

American Cotton Goods Machinery in Hungary.—The firm of Samuel F. Goldberger & Sons, 111 Lajos utcza, 138, Budapest, Hungary, is about to equip its cotton goods printing factory with American machinery. The reorganization will be undertaken by Mr. Bela Bocsor of the firm, a mechanical engineer.—*Frank Dyer Chester, Consul-General, Budapest, Hungary, April 28, 1905.*

Maritime Exhibition at Antwerp.—Official notification has been given that a maritime exhibition is to be held at Antwerp from August 13 to October 1, 1905. There will be a collection of models of ancient and modern ships, specimens of old-time nautical instruments, charts, plans of harbors, sketches of old light-houses, signals, engravings of ships, naval battles, etc. Among the exhibits will figure the collection of the Museum of Madrid and the famous collection of Amsterdam. Exhibits of rare interest will also be sent by England, Italy, Sweden, France, and Portugal.—*Church Howe, Consul-General, Antwerp, Belgium, April 26, 1905.*

American Agricultural Implements in Canada.—A recent number of the Canadian Manufacturer contained a statistical statement regarding certain imports into Canada in 1904 which, under the heading "Agricultural implements," included a list of 21 articles, valued at $2,934,594, of which $2,911,120 worth came from the United States and $21,842 worth from Great Britain, the imports from all other countries being valued at only $1,632.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, April 12, 1905.*

Sicilian and American Sulphur.—Under date of March 27, 1905, United States Consul-General Richard Guenther, Frankfort, Germany, reports that the output of sulphur in Sicily during the year 1904 is

estimated at 560,000 tons, of which 475,745 tons were exported. The stock on hand increases from year to year. Louisiana is getting to be a dreaded competitor in sulphur for Sicily, and sulphur deposits in California and Chile are to be exploited soon.

Field Mice in Nova Scotia.—The Supply Company has lost several hundred fruit trees on its farms in the Annapolis Valley by mice. It is going to uproot about 400 trees and replace them by new ones this spring. The members of the company are not the only fruit growers who have suffered from the ravages of the small field mouse; farmers all over the Annapolis Valley are complaining of similar losses.— *W. R. Holloway, Consul-General, Halifax, Nova Scotia, April 22, 1905.*

Trade of Paraguay.—The foreign trade of Paraguay, estimated in Argentine gold, was as follows in 1904: Imports, $2,840,000, wherein the United States occupies the seventh place, imports therefrom amounting to only $98,000; exports, $3,929,503.— *Waldemar C. de Korab, Vice-Consul, Asuncion, Paraguay, March 20, 1905.*

Increase of Rolling Stock of Argentine Railways.—The minister of public works of this Government has ordered certain of the railway companies of this country to increase their rolling stock as follows: The Great Southern Railway by 1,023 wagons of 30 tons each and 23 locomotives; the Buenos Aires and Pacific Railway by 920 wagons of 30 tons each and 30 locomotives; the Buenos Aires and Rosario Railway by 339 wagons of 30 tons each and 7 locomotives; the Buenos Aires Western Railway by 500 wagons of 30 tons each and 20 locomotives, and the Andine Railway by 50 wagons and 2 locomotives. This new rolling stock must be acquired by the companies before December 31 next. The companies are allowed, in complying with this order, to purchase a greater or less number of wagons than actually specified above, provided the total tonnage aggregates 30,712, 27,618, 10,194, 15,000, and 1,500 tons, respectively.—*A. M. Beaupré, Minister, Buenos Aires, Argentina, April 7, 1905.*

Denaturated Alcohol in Belgium.—According to German papers there are two industries in Belgium which owe their existence solely to the fact that denaturated alcohol is not subject to any tax in Belgium, namely, the manufacture of ether and of artificial silk, which use more than 2,500,000 gallons of alcohol per year. The demand for alcohol by these industries has increased about thirteenfold since 1896.—*Richard Guenther, Consul-General, Frankfort, Germany, March 31, 1905.*

Iron Bridges Projected in Turkey.—Under date of May 2, 1905, United States Consul Dickinson, of Constantinople, transmits the following translation of an announcement by the ministry of public works from the Levant Herald of May 1:

The ministry of public works solicits tenders for three iron bridges 20 meters (66.6 feet) long. All who desire to submit offers should address the special commission sitting at the ministry of public works or the Smyrna Vilayet for plans and specifications. Offers will be received until May 25, 1905, the date of the first adjudication. The final adjudication with a 3 per cent discount will take place on June 1 next. The bridges are to be delivered f. o. b. Smyrna.

It will be noted that the bids are to be opened on May 25, but judging from the practice which has obtained in such matters bids will probably be received for two or three months later.

American Locomotives for Australia.—In connection with the movement for promoting home industries in Australia, a statement made by the Australian Mining Standard is interesting. It says that the firm of I. Martin & Co., of Gawler, South Australia, offered to establish locomotive works in New South Wales and to supply the government with 120 locomotives at £5,360 ($26,084) each. But the government commissioners recommended the purchase of foreign locomotives because they can be bought much cheaper, the Baldwin Locomotive Works of Philadelphia having recently offered to supply the locomotives for £1,236 ($6,013) less for each locomotive than the offer made by the Australian firm. The bid of the Baldwin Works was on 20 locomotives, but it is to be presumed that they could make a still lower price on a contract for 120.—*Richard Guenther, Consul-General, Frankfort, Germany, April 18, 1905.*

Bait-Preserving Plant in Halifax.—Under date of May 3, 1905, United States Consul-General Holloway, Halifax, Nova Scotia, transmits the following telegram from North Sydney:

It looks as if a new solution of the ever-pressing bait question were to be offered to the fishermen frequenting these coasts. J. Benst, of the firm of Benst et Fils, Granville, France, is in town with a view to supplying French and American fishing vessels with free samples of preserved bait as now used by this firm in France. Machinery for the operation of a bait-preserving plant is now on its way to Halifax by the steamer *Norden*. When this arrives the firm expect to preserve bait here on an extensive scale. The new system is claimed to have great advantages over the cold-storage plan, as vessels can go to the fishing grounds and remain there as long as they wish with constant fresh material instead of having to return to port frequently for cold-storage bait. It also removes the trouble and expense of carrying large quantities of ice.

Natural Gas at Yamachiche, Quebec.—There is much excitement in this district over the discovery of what is reported to be a very remarkable gas well at Yamachiche. Two companies are at work boring for oil. The work of one of them has been stopped by a flow of gas, salt water, sand, and rock that is beyond control. The flow started when the drill had been driven down about 280 feet, and was so strong that it forced drill, derricks, and trappings out of the well and threw a stream 200 feet into the air. The flow was preceded by an explosion that shook the ground for a great distance. The work on this well is stopped temporarily. Natural gas is already used for fuel at St. Genevieve, in this district.—*James H. Worman, Consul, Three Rivers, Quebec, April 29, 1905.*

American and Canadian Coal in Ontario.—According to the Canadian Manufacturer, the Dominion Coal Company has decided that the time has come to invade the Toronto and other Ontario markets, thus contesting with the American coal companies in a very profitable field. "If the experiment succeeds, the American concerns will no longer enjoy the virtual monopoly they have held so long. Canadians will be interested in this matter, and manufacturers in Ontario should be sufficiently alive to the importance of the undertaking to give the Dominion Coal Company all the encouragement possible. If these markets are won for the Canadian concern, it will mean a large increase in the output and greatly enlarged pay rolls for the men dependent upon the success of the Canadian mines, to say nothing of the increased opportunities for transportation lines." The company will employ a special line of boats to handle the freight from Montreal to Toronto and in addition will erect large coal elevators in the harbor of Montreal, and Toronto will be used as a distributing point for the Province of Ontario.— *W. R. Holloway, Consul-General, Halifax, Nova Scotia, April 12, 1905.*

Photographic Plates for Jamaica.—Photographic plates imported into Jamaica come principally from England, and are packed in cardboard boxes containing three parcels of four plates each, wrapped in moisture-proof paper, and these again wrapped in thick slate-colored paper, thus insuring them against moisture and light. Photographers here who have imported American plates have been very much disappointed by the unsuitable mode of packing, which renders it impossible to produce good pictures. Plates intended for Jamaica, or any other tropical country, should be wrapped in paraffin paper or in some other improved packing material which will exclude moisture.

I feel sure that if this is done our trade in these and many other articles in which Europe now has a monopoly would rapidly increase.—*Nicholas R. Snyder, Commercial Agent, Port Antonio, Jamaica, May 11, 1905.*

Railroad Ties of Leather.—German papers report that railroad ties of leather are used on the Russian Government railroads. All sorts of material have been used for this purpose, but chiefly tarred wood and iron. No tie has given perfect satisfaction; the wood decays and the iron changes under the influence of temperature. It is expected that leather ties will not be perceptibly affected by either air or heat, nor will they split when nails are driven into them. If leather ties prove more durable than wooden ones, they may in the long run be even less expensive.—*Richard Guenther, Consul-General, Frankfort, Germany, April 25, 1905.*

Closing German Trade Schools to Foreign Inspection.—The Frankfurter Zeitung of May 17, 1905, publishes a communication from Chemnitz stating that the Chemnitz Chamber of Commerce has characterized as hazardous the contemplated inspection of Saxon trade schools for the textile industry by a representative of the Austrian trade schools appointed by his Government. In consequence of a circular letter to those interested the chamber of commerce recommends that the representative of the Austrian Government be not allowed to inspect the Saxon trade schools for the reason that there is danger he would see things of advantage to Austria and to the detriment of German industry, and that it is hazardous to still further strengthen foreign competition.—*Richard Guenther, Consul-General, Frankfort, Germany, May 18, 1905.*

Tanning Extracts Wanted.—Under date of April 12, 1905, United States Consul Frank M. Brundage, of Aix la Chapelle, Germany, reports that Mr. John Nyssen, a reliable business man of that place, desires to purchase leather-tanning extracts. Anyone interested in selling such products can correspond direct with Mr. Nyssen, 114*a* Julicherstrasse, Aachen (Aix la Chapelle), Germany. There are many tanners in that part of Germany.

Dried Apricots in Japan.—The Dominion commercial agent for Japan reports that the demand for dried apricots is growing in Japan, and suggests that if Canadian exporters can place in the market a better article than that imported from the United States there is a prospect of their obtaining some trade. The Canadian agent says: "It is

only a few years since American dried apricots were introduced into that country, but owing to their good flavor and cheapness they are fast superseding the native product. At present they are imported from San Francisco, but the importers are complaining of a falling off in the quality of the fruit. The invoice of the American article is $3.50 to $4.01 per case of 25 pounds." The agent gives the names of the following merchants importing and dealing in apricots: Kameya & Co., Shimbashi, Tokyo; Meidiya & Co., Honcho, Yokohama; Yamada & Co., Motomachi, Yokohama. American fruit growers should heed these criticisms and redouble their watchfulness of a market naturally open to us.—*James H. Worman, Consul, Three Rivers, Quebec, April 29, 1905.*

Electric Tramways in Lima.—In pursuance of the authorization of a supreme resolution of April 12, a contract has been entered into between the Ferrocarril Urbano de Lima and the provincial council substituting overhead trolley for horse traction on all the street railways of Lima (about 16 miles in extent). The new system is required to be in operation within two years from the signing of the contract, and 5 kilometers (3.1 miles) of new road between specified points in the city must be in operation within the five following years. A new company, representing American and local capital, succeeds the old one, and the electric and other new material required has been ordered from the United States, as happened in the case of Lima's two suburban lines now in successful operation.—*Irving B. Dudley, Minister, Lima, Peru, April 27, 1905.*

Liquor Consumption in the United Kingdom.—The sum spent for intoxicating liquors in Great Britain and Ireland in the calendar year 1904 was $817,000,000 in round numbers. This is a decrease from the total of 1903. In fact, for several years, the national drink bill has been decreasing. The average per capita expenditure for drink in 1904 was $20.59 for England, $15.57 for Scotland, and $15.08 for Ireland. In Belfast, with an estimated population of 358,693, the total expenditure was $5,495,000 for drink. This is almost equal to the total taxable valuation of the city, which for the year ending March 30, 1904, was $6,129,610.—*S. S. Knabenshue, Consul, Belfast, Ireland, April 17, 1905.*

Locomotives of American Type in Germany.—A short time ago several new locomotives of German manufacture, but of what is here styled the American "Atlantic" type, were put in service on the fast express line between Cologne, Berlin, and Aix la Chapelle. The boilers are considerably larger than in the usual German engines, in

consequence of which the smokestack is very low, being of the same height as the dome. The diameter of the driving wheels has been considerably increased and they are driven by four cylinders. There are two distinct furnaces fitted with smoke-consuming apparatus which seems to produce good results. These locomotives have attracted much attention by their massive and powerful appearance, and have proved to be more powerful and speedy than the ordinary German engines, so that there is every prospect of their number being increased. The tender is likewise built after the American pattern and is so constructed as to carry an extra large supply of water in addition to fuel.—*William F. Wright, Consul-General, Munich, Germany, April 15, 1905.*

Bulgarian Imports.—In the year 1904 Bulgaria imported goods to the value of $25,030,000, among which the following items figured: Preserves and candies, $422,000; chemicals, $254,400; paints, colors, varnishes, and tanning, $384,400; rosin and mineral oil, $908,170; drugs, medicines, and perfumery, $196,020; metals and metallic wares, $2,177,000; wooden and basket ware, etc., $753,700; paper and paper articles, $580,200; leather and leather goods, $1,777,300; textile goods, $8,868,700; rubber goods, $113,680; railroad cars, wagons, and vessels, $181,716; machinery, instruments, and apparatus, $2,423,000; jewelry and fancy articles, $150,500. Bulgaria's imports in 1904 are 58 per cent larger than those of 1903.—*Richard Guenther, Consul-General, Frankfort, Germany, March 30, 1905.*

New German Paint.—British trade journals describe a new white paint, patented in Germany, which is claimed to far excel white lead and other similar products in fineness and smoothness of surface, covering power, permanence, and cheapness. It is said to be obtained by saturating burnt lime containing magnesia with a hydrocarbon, and firing until all the carbon is burned. The material is then ground fine and colored ready for treatment with linseed or other saponifiable oils; with mineral oil, also, partial saponification takes place, resulting in a good workable paint. A dolomitic limestone, containing from 20 to 50 per cent of magnesia, is said to be best for the purpose, although a limestone having less than 20 per cent may be enriched by adding the desired quantity of magnesia, but with not such good results as are produced by the dolomite. Other pigments can be mixed with the material to produce paints of any required shades. The advantages claimed for the paint are that it dries quickly without driers, is unaffected by light, and not changed by ammonia, sulphureted hydrogen, or sulphurous acid; that the coating hardens like enamel after some

months, possesses a dull gloss, does not blister in the sun, and is washable, yet retains its original smoothness. The paint is suitable for walls and woodwork of all descriptions.—*Frank W. Mahin, Consul, Nottingham, England, May 3, 1905.*

Dominion Coal in Ontario.—The Dominion Coal Company has determined to establish, in Toronto and other cities and towns of Ontario, coal depots for the purpose of cutting into the American companies' monopoly. The importance of this movement to the manufacturers and to the miners, its promise of increased pay and more work for the latter, and great reduction in cost of coal, is fully set forth by the Dominion company. This company has received a special line of boats to handle the freight from Montreal to Toronto, and will erect large elevators at both places. Cornwall will also be a distributing point.—*John E. Hamilton, Commercial Agent, Cornwall, Ontario, April 10, 1905.*

American Furniture in South Africa.—German trade journals seem much troubled about the preponderating exports from the United States to South Africa. A leading journal calls the attention of German manufacturers to the large imports of American furniture into South Africa, and attributes this to the practical mode of packing whereby the cost of transportation is much reduced and the furniture therefore can be sold cheaper. It recommends that only experts be sent to South Africa for soliciting orders.—*Richard Guenther, Consul-General, Frankfort, Germany, April 6, 1905.*

Canadian Tariff and Wool Manufactures.—A deputation of woolen mill owners visited Ottawa April 26 to induce an increase in the tariff on woolen goods. They insisted that unless tariff changes were made this industry would be wiped out in Canada, backing up their statement with figures regarding the decline of woolen mills in the Dominion. The ministers promised the usual consideration, but gave no positive indication that any relief would be afforded by tariff changes this year. Only twenty mills are struggling along to-day, against seventy-five mills some years ago.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, April 28, 1905.*

Belgian Steamship Consolidation.—The Belgian Navigation Company, "Ocean," has taken over the general management of the Blue Cross Line, Mediterranean service, the Genoa, Leghorn, Marseille, London, and Antwerp service, and the Genoa, Leghorn, Naples,

Catania, Messina, Palermo, London, and Antwerp service. The first service will be carried out by three steamers and the second by four; departures will take place every ten days.—*Church Howe, Consul-General, Antwerp, Belgium, April 26, 1905.*

Absinthe in Belgium.—A law has been passed by the Belgian Chamber and Senate to prohibit the manufacture and sale of absinthe within the Kingdom. The necessity for such a regulation was no doubt made evident by the growing increase in the consumption of this drink. In 1850 the consumption was 29,478 gallons; in 1880, 39,612 gallons; in 1890, 2,477,574 gallons; in 1900, 2,852,014 gallons, and in 1903, 2,923,602 gallons.—*James C. McNally, Consul, Liege, Belgium, May 3, 1905.*

Germans Seeking Canadian Nickel Mines.—A German nickel mining corporation having a newly invented plan for treating copper nickel ore is reported by the Canadian Manufacturer to have applied to the Dominion bureau of mines at Ottawa for information that would enable it to secure mineral areas in the Sudbury district, Ontario.—*James H. Worman, Consul, Three Rivers, Quebec, April 29, 1905.*

Canadian Wood Pulp for the United States.—The Lake Superior Pulp and Paper Company, Sault Ste. Marie, Ontario, has by contracts disposed of the entire output of the pulp mills for 1905 in the United States. Formerly a good portion of it went to England.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, April 12, 1905.*

Increase of Lumber Duty in Spain.—Lumber importers at Barcelona are much troubled over the proposed increase of duty on rough sawed lumber, of which a considerable proportion comes from the United States. This lumber at present pays 6 pesetas (90 cents) per cubic meter (35.316 cubic feet) when coming from the United States, and 5 pesetas (75 cents) when coming from countries enjoying the most favored-nation privilege. It is now proposed to increase the duty to 30 pesetas ($4.50) per cubic meter. Importers usually place their orders long ahead of time in order that the lumber may be sawed according to requirement, but at present they are unable to place orders because of the uncertainty as to the action of the Spanish Government on the proposed increase of the duty. They are, of course, making every effort to prevent this increase, but they are by no means confident of success.—*Benj. H. Ridgely, Consul-General, Barcelona, Spain, May 1, 1905.*

Iodine Cure of Tuberculosis.—Under date of April 5, 1905, United States Consul Harlan W. Brush, of Milan, Italy, transmits further information regarding the reported discovery, by Prof. Joseph Levi, of Milan, of a cure of tuberculosis by the use of a specially prepared iodine. Professor Levi, who for many years has been connected with the Veterinary School of Milan, has practiced the use of iodine on horses for the last twenty years, and now announces that by his new method consumption can not only be arrested but be completely cured. He says:

It is a well-known fact that iodine can immediately convert itself into vaccine and become a virus of the most active and deadly kind. It follows from this that a person affected with tuberculosis becomes capable of making by himself and in himself his own curative serum, ready for healing purposes when this iodine can circulate integrally in the blood. And it is precisely this which I have obtained by my new method.

Professor d'Auria, of Naples, made many encouraging experiments with iodine in cases of tuberculosis, as also Durante before him, but from what is alleged Professor Levi has now brought former theories and experiments to a definite solution. The facts of his discovery were communicated by the professor to the King of Italy, who, it is stated, has replied, manifesting the greatest interest.

American Meat in Germany.—A convention has been concluded between the German Empire and the Grand Duchy of Luxembourg allowing meat coming from the latter country, which has been inspected under the regulations existing there, to enter Germany, treating it like meat that has passed German inspection. As we are entitled to the "most favored nation" treatment, it would appear that American meat which has passed American inspection should be allowed to enter Germany without being subjected to a second inspection here.—*Richard Guenther, Consul-General, Frankfort, Germany, May 16, 1905.*

German Trade with Turkey.—In the last few years German trade with the Turkish Empire has largely increased. The exports from Germany to Turkey for 1902, 1903, and 1904 were valued at $11,000,000, $12,050,000, and $18,825,000, respectively. The imports from Turkey during the same years were valued at $9,125,000, $9,375,000, and $10,875,000, respectively. The exports to Turkey show an increase of about 75 per cent, chiefly due to Government contracts. In 1904, 5,329 dozen rifles, against 228 dozen in 1903, were exported from Germany to Turkey, and there were large exports of railroad material.—*Wm. F. Wright, Consul-General, Munich, Germany, May 8, 1905.*

Promoting the Export Trade of France.—One of the leading firms in Paris is trying to bring about a combination of French manufacturers to promote the export trade. This firm has sent a circular letter to other industrial firms in which it calls attention to the fact that while immense sums of French capital are invested in South African mining stock, the commerce of France with that country is in a deplorable state. It is surprising, says the circular, how insignificant is the share of France in South African trade. In 1902 it did not amount to quite one-half per cent, thus leaving France behind such little countries as Netherlands, Belgium, Norway, and Sweden. The circular recomm nds sending French commercial travelers to South Africa, Mozambique, Zanzibar, Rhodesia, Egypt, and the valley of the Nile. It also suggests the establishment of depots to be supplied by the combined action of French manufacturers. German trade papers comment upon this by cautioning German exporters to be on the alert and follow up this French movement for increased exportations.—*Richard Guenther, Consul-General, Frankfort, Germany, April 22, 1905.*

New Theater in Honduras.—In order to celebrate the three hundredth anniversary of the publication of Don Quixote, the Government of Honduras has decreed the building of a theater to be known as "El Teatro Cervantes." It is proposed to spend on this building $100,000 gold, and I suggest that it would be a good opportunity for American contractors to submit figures, plans, etc. These should be addressed to the Ministro de Gobernacion, Tegucigalpa, Honduras, and sent as soon as possible. It is intended to have a building capable of accommodating 1,500 to 2,000 persons.—*Wm. E. Alger, Consul, Tegucigalpa, Honduras, May 6, 1905.*

Clay Sewer Pipe Wanted.—The Fundicion de Sinaloa, of this city, is in the market for enough clay sewer pipe to lay 20 to 25 miles of line, of all sizes and connections, for the building of the sewerage system of Mazatlan. Address, Fundicion de Sinaloa, Mazatlan, Sinaloa, Mexico, quoting prices f. o. b. San Francisco or Guaymas, Mexico.—*Louis Kaiser, Consul, Mazatlan, Mexico, May 10, 1905.*

Cullinan Diamond.—United States Consul Joseph E. Proffit, Pretoria, Transvaal, reports that the remarkable diamond recently discovered in the Premier mine weighs 3,024¾ carats, and is the largest in the world. It has been named the Cullinan diamond in honor of the chairman of the directorate of the company operating the mine.

Cotton Manufactures in Amoy, China.—There have been complaints from dealers along the Chinese coast this spring on account of slow deliveries of cotton goods, both from the United States and England. The complaints are just as loud of one country as the other, but as prompt delivery does not seem to be expected of American goods, the responsibility for slowness is easily fixed and protests are to the point. The severe fluctuations in exchange and this lateness of delivery have combined to cause serious losses in a number of cases. The spring cotton-goods market of Amoy seems to be rather backward. The demand for shirtings has been slow, that for T cloths firm, and that for prints extremely slow. The fall in exchange has had the effect of raising prices to a slight extent, but not to the full measure of the difference in the price of silver. If exchange will remain stationary for a time at the present level, there will be a bettering of prices all around and trade ought to be brisk. The prospects are that the price of native cotton will come down considerably before midsummer. Sales lately have run from $10.26 to $11.40 per 133 pounds for Shanghai cotton. The mills are running according to their usual volume of business. The demand for woolens is very slow.—*George E. Anderson, Consul, Amoy, China, April 6, 1905.*

New Bank in Athens.—United States Consul George Horton, Athens, Greece, reports, under date of April 26, 1905, that a new bank has been founded in Athens with a capital of 10,000,000 francs ($1,930,000), divided into 20,000 shares of 500 francs ($96.50) each, of which the National Bank of Greece guarantees 10,000 shares and the National Bank für Deutchland, of Berlin, the other 10,000. It will be known as the Bank d' Orient (Oriental Bank). The announced object of this bank is to carry on all financial, industrial, and commercial operations usually undertaken by banks and establishments of credit. Its special object is to develop the commerce of the Orient, and its support by German capital is an indication of the hold which German enterprise has obtained on the business of the East. Branches have been established at Constantinople, Saloniki, Smyrna, and Alexandria. An agency has also been established in Hamburg. Interest is paid on deposits as follows:

Time of deposit.	Paper.	Gold.
	Per cent.	*Per cent.*
At call	2½	2
Three to six months	3	2½
Six months to two years	3½	3

International Exposition of Samples.—Under date of April 4, 1905, United States Consul Pietro Cuneo, Turin, Italy, reports as follows: An international exposition of samples will be held in Turin, in the Palace for the Promotion of Fine Arts, during August and September, 1905. Agriculture, commerce, hygienics, the liberal arts, machinery, electrical appliances, automobiles, etc., will be represented in the exhibits. Honorable mention will be made of the best samples shown. The managers have complimented the United States by electing its consul in this city one of the vice-presidents. I sincerely hope that our country will be well represented. Those intending to exhibit or desiring details should address the president, No. 34, Via Mazzini, Turin, Italy. The general director is Leonardo Pugi; the general administrator and president of the jury is Prof. E. Perroncito.

German Meat Supply.—The municipality of Nuremberg has resolved to petition the Bavarian government to convene the "commission for meat supply" to take steps for relieving the meat market. According to expert opinion, the farmers supplying Nuremberg with meat have only inferior cattle, and the domestic husbandry is utterly incapable of furnishing a full supply. The municipality holds that "this condition will be much aggravated when the new commercial treaties go into effect, as then a further advance in the present high price of meat is likely to occur." When that time comes meat may become a once-a-week luxury to many Germans.—*Richard Guenther, Consul-General, Frankfort, Germany, May 3, 1905.*

American Mining Enterprise in Mexico.—The announcement of the removal, on May 1, of import duties on mining machinery and of the reduction of the annual tax on each holding, has stimulated American mining enterprise in Mexico. While the loss of this source of revenue to the Mexican Government may be felt at the moment, the deficit will surely be more than made up by the augmented returns from new mining developments. It is predicted that with the adoption of this wise and liberal policy many rich mineral districts hitherto dormant will become the centers of new activity, and it is hoped that included in these will be the almost unexplored mineral regions of western Tamaulipas, from which rich specimens have been obtained from time to time, but which, owing to lack of transportation facilities and the high duties on mining machinery, have remained undeveloped and practically unknown.—*P. Merrill Griffith, Consul, Matamoros, Mexico, May 4, 1905.*

Assisted Emigration to Canada.—Under date of May 12, 1905, United States Consul Dudley, of Vancouver, British Columbia, transmits the following, which appeared as a cablegram from London, England, in a Vancouver evening paper:

The East End emigration fund, an organization whose object is to assist honest, industrious, and respectable working men and women with families (British subjects below the class of mechanics and now crowded out of work by keen competition) to emigrate to British colonies, has issued an appeal for more funds to carry on its work. The appeal says: "To send to Canada the people with whom we are now dealing will cost over $10,000. It costs about $150 to send an average family. Already over 500 persons have been sent to Canada by this society this year, and the funds now at the disposal of the committee are nearly exhausted."

Silk Waste Export Duty in Italy.—The various silk associations of northern Italy are again advocating the abolition of the export duty on silk waste and on silk-waste goods. The export duty on raw silk ($7.43 per 220.46 pounds) was abolished in 1892. The reasons for the duty on waste silk no longer exist, it is alleged, and the duty should therefore be removed in the interests of the silk industry.—*Harlan W. Brush, Consul, Milan, Italy, March 15, 1905.*

Dominion Exhibition.—It is announced that it has been decided to hold the Dominion Exhibition in Halifax in 1906. The Dominion government has voted $50,000, and it is expected that the exhibition will be the greatest ever held in the maritim provinces.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, May 6, 1905.*

Foreign Trade of Canada.—The total foreign trade of the Dominion in the ten months ended April 30, 1905, was valued at $371,951,412, or $2,500,000 less than in the corresponding portion of the previous year. In detail the trade was as follows, compared with that of the corresponding ten months of the preceding year: Imports, $209,551,815, an increase of $10,273,311; domestic exports, $153,951,403, a decrease of $9,608,005; exports of foreign products, $8,448,194, a decrease of $3,223. The customs revenue amounted to $34,037,280, an increase of $815,059. Among the domestic exports the only groups of articles that have made gains are manufactures and the produce of the fisheries. In the month of April, 1905, the imports were valued at $20,767,006, or $500,000 more than in April, 1904, and the domestic exports at $9,008,495, the increase being about the same as in imports, while the exports of foreign produce remained about equal to those of the cor-

responding month in 1904. The April exports of domestic produce showed an increase in fish, minerals, lumber, and manufactures.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, May 16, 1905.*

Good Wine from Bad Grapes.—The secret of the rare "bouquet" of Moselle wines was disclosed by Prof. Marshall Ward on May 6, in a lecture on "Molds and moldiness," says the London Daily Mail. "Moldy grapes," asserted the professor, "produce a far finer wine than freshly gathered fruit. Moselle wines come from grapes which are in a simply awful condition. The grapes grown in the Moselle districts are not subjected to sufficient heat to fill them with sugar, and they are therefore allowed to be attacked by what is known as noble rot, in which process the mold fungus, having the satisfactory habit of selecting certain crystals according to taste, picks out the acid first and leaves just the proper proportion of sugar behind."—*James C. McNally, Liege, Belgium, May 9, 1905.*

How to Win Trade in Mexico.—Under date of May 8, 1905, United States Consul-General Richard Guenther, of Frankfort, Germany, transmits the following translated paragraph from a recent report of the Austrian consul at Monterey, Mexico, relative to trading with Mexico:

The Mexican business man is the peer of anyone in point of integrity. There are some exceptions, but not more numerous than in any other country. The exporter must reckon as an important matter the fact that the Mexican lays stress upon being treated as a gentleman. He uses the greatest politeness in his intercourse, especially with strangers, but in return he expects the same treatment. He does not like to be dunned, even if behindhand in his payments. The most important requisite for doing a successful export trade in Mexico is to have suitable representatives there who know the customs and conditions of the country, and who, above everything else, can make themselves liked by the customers. All correspondence with Mexican firms should be in the Spanish language, catalogues, etc., should be in Spanish, and prices ought to be stated in terms of United States or French currency.

Canadian Wool Industry and the Preferential Tariff.—Under date of May 12, 1905, United States Consul Dudley, of Vancouver, British Columbia, transmits the following from the Canadian Manufacturer, Toronto, May 5:

The preferential tariff, which came into full force and effect in 1898, was intended and expected to be the entering wedge of Imperial federation. It has had very little effect upon the general trade of the country, and but little attention would be paid to it were it not that

it has ruined what was once a large and valuable industry—the manufacture of woolen goods—and now we find Canadian wool manufacturers going suppliantly, hat in hand, to the government, beseeching that something be done to retrieve the situation. Mills are being closed, employees are seeking work elsewhere, capital is being as irretrievably lost as if it were at the bottom of the ocean, and Canadian farmers are forced to seek other markets for the sale of their wool through the operation of what we know as our British preference.

Monterey-Matamoros Railway.—Under date of January 14, 1905, I reported upon this subject as follows: "The new line of the Mexican National Railway, now building from Monterey to Matamoros, is running three trains in each direction weekly as far as Los Aldamas. I am informed that the road between Los Aldamas and Matamoros will be completed within sixty days, and that it is the purpose of the company to run a daily passenger train in each direction between Monterey and Matamoros." I have now the satisfaction of reporting the completion of the line.—*Philip C. Hanna, Consul-General, Monterey, Mexico, May 10, 1905.*

American Flour for Jerez de la Frontera, Spain.—This market needs a rich, cheap flour; No. 1 hard patent is not wanted. Flour is worth here $6 per 220 pounds. The duty, recently reduced, is now 81 cents per 220 pounds. The freight and charges amount to about 90 cents per 220 pounds. At present the margin is very small. Nobody here will buy f. o. b. for cash; flour must be sold on three or six months credit. Several inquiries have been made by commission men to know where they could get American flour and on what terms, but none want to buy for cash. I will undertake to look after a shipment of 100 or 200 barrels consigned to me to be sold on the market, as a test of what can be done with American flour. I think if the article could be introduced here it might become a factor in the commercial clubs and be regularly quoted as a speculative feature of their daily market operations, and thus lead to a permanent trade.—*M. M. Price, Commercial Agent, Jerez de la Frontera, Spain, May 1, 1905.*

Fighting Tuberculosis in Paris.—The Frankfurter Zeitung of April 20 contains correspondence from Paris stating that the fight against tuberculosis is waged in a very energetic and systematic manner by the commission appointed for that purpose by the prefecture of the Seine. The commission has undertaken the task of cleaning the dwellings suspected of being infected and of freeing the walls of the bacilli remaining there. It has a list of 1,000 houses under suspicion of harboring tuberculosis and 4,000 more houses are to be

added to this list. The commission expects to render all the houses in Paris free of tuberculosis bacilli. Its office is located in the Lobau barracks near the city hall.—*Richard Guenther, Consul-General, Frankfort, Germany, April 20, 1905.*

Canadian Naval Stations.—It is announced by the Dominion government that the cost of maintaining the naval stations and fortifications at Halifax, Nova Scotia, and Esquimalt, British Columbia, will be undertaken by the Dominion, and that the permanent force for the purpose will be increased from 2,000 to 4,000 men.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, May 1, 1905.*

Newspaper Postage to Canada.—Publishers of daily newspapers in the United States seem to be unaware of the fact that their papers may be mailed to persons in Canada at the usual pound rates. I am a subscriber to a daily paper published within a stone's throw of the general post-office at Washington, yet each number comes to me with postage stamps of the value of 3 cents, and the Sunday edition comes with 5 cents' worth of postage stamps. It appears that many of our publishers fail to avail themselves of the advantages given them under the international postal union.—*L. Edwin Dudley, Consul, Vancouver, British Columbia, April 20, 1905.*

Mining in China.—It is announced that the leading merchants of Lungyen-chau, a city in Fukien Province, have organized a company and have secured permission from the Government at Peking to work coal and other mines in that vicinity. The general announcement has been made that the company was formed to head off a Japanese concern which has been making plans in the same direction, but there is reason to believe that there are Japanese interests back of it. The coal and lead fields of the district are said to be of more than average value.—*George E. Anderson, Consul, Amoy, China, April 13, 1905.*

Cement and Cement Mills in Mexico.—The second cement mill in Mexico has been organized under the firm name of the Monterey Portland Cement Company, with a paid-up capital of $400,000. It will be located at Monterey, the capital of the State of Nuevo Leon. The demand for cement in this Republic is steadily increasing and is likely to reach 300,000 barrels this year. Cement was formerly nearly all imported from the United States and Germany.—*Louis Kaiser, Consul, Mazatlan, Mexico, May 9, 1905.*

Tenders for Dredging in Canada.—The department of public works, Ottawa, invites tenders for the dredging required at the following places: Bayfield, Belle River, Beaverton, Collingwood, Kincardine, Matchedash Bay, Meaford, Owen Sound, Trenton, Penétanguishene, Point Edward, Sarina, Port Stanley, Rondeau, Port Burwell, Saygeen River, Thornbury, and Wiarton, Ontario.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, May 9, 1905.*

National Wealth of Japan.—The Austrian Monthly Magazine for the Orient has published a statement of the national wealth of Japan, based upon reports of Austrian business men of Tokyo, in which the total amount of money invested in 1904 by corporations engaged in commerce, industry, agriculture, banking, mining, navigation, and railroads is placed at about $420,000,000. The banks had about $343,000,000 in deposits, and their total capital in 1902, amounted to about $557,000,000. The public debt in 1902 was about $272,000,000.—*Richard Guenther, Consul-General, Frankfort, Germany, May 15, 1905.*

Briquettes in Japan.—The proposed plant for the manufacture of briquetted fuel in Yamaguchi Ken, mentioned in a former report, has been located at Tokuyama, and commenced operations April 24, under the ownership and control of the Japanese Admiralty, which also owns the Omine mine, from which the coal will be taken for the manufacture of the briquettes. To convey the coal to the factory a railway has been built, about 10 miles in length, connecting the mine with the main line of the Sanyo railway system. The capacity of the factory under normal conditions is said to be about 150,000 tons per annum, its full capacity being, however, 250,000 tons. The estimated cost of the briquettes is $4.50 per ton. The total expense incurred in starting the plant was about $500,000. The machinery was purchased in England.

The output of the factory of the Rentan Kaisha, which manufactures briquettes at Nagasaki, was 50,000 tons in 1904. The capacity of the plant has been increased from 70,000 to 120,000 tons per annum, and the Japanese Admiralty continues to take the output at $8.50 per ton.—*Charles B. Harris, Consul, Nagasaki, Japan, April 29, 1905.*

Canadian Astronomical Observatory.—Information from Ottawa states that the Dominion Astronomical Observatory has been practically completed. The big telescope has been mounted, Astronomer W. F. King, with his staff, has taken possession of the building, and observation work has begun. The telescope is a refracting instrument 19

feet 6 inches long, with a 15-inch lens and a maximum magnifying capacity of 1,500 times. It is by far the largest in Canada and ranks after the giant telescopes of the United States. In addition to the big telescope, the observatory has transit spectroscopic instruments and all the equipment of a first-class institution of the kind. The building cost $92,000 and the telescope $14,000; of this the lens cost $3,600.— *W. R. Holloway, Consul-General, Halifax, Nova Scotia, May 1, 1905.*

United States Consular Reports in Germany.—In the last issue of its official journal, the Imperial ministry for the interior of the German Empire invites interested parties to call at the ministerial office to read the collection of United States consular reports on "Marketing goods in foreign countries."—*Richard Guenther, Consul-General, Frankfort, Germany, April 20, 1905.*

Healing Qualities of Egg Membrane.—At a recent session of the Therapeutical Association of Paris, Doctor Amat lectured on the use of the membrane of eggs in the treatment of wounds. He has observed for some time the good results of placing these membranes upon the surface of wounds, and reports two new cases, that of a young girl suffering from a burn on her foot, and a man, 40 years old, with a large ulcer on his leg. Both wounds were in process of healing and were covered with healthy granulations. The surgeon overspread them with six or eight pieces of the membrane of eggs, which was covered with tin foil and fastened with dry antiseptic bandages. After four days the bandages and tin foil were removed, and it was shown that the membrane of the egg had partly grown into the tissues and had caused the growing of a good skin. That the egg membrane had contributed much to the healing process was demonstrated in the further course of treatment. It seems, however, that the membrane does not always adhere. The process of cicatrization is not only hastened but the wound heals exceptionally well and leaves but few perceptible traces. As these membranes are procurable everywhere their use should attract more attention.—*Richard Guenther, Consul-General, Frankfort, Germany, May 15, 1905.*

Profit Sharing in British Columbia.—The British Columbia Electric Railroad Company introduced profit sharing three years ago, and it is now announced that the experiment has been eminently satisfactory. The company recognizes the men's union, pays standard wages, and frankly meets representatives of the union to discuss any matter

which the men or the management desire to discuss. The company decided that in addition to paying union wages, one-third of the surplus earnings, after paying a 4 per cent dividend, should be distributed yearly among all employees who had remained in the company's employ at least one year continuously. This surplus is divided equally among all employees, from the office boy to the general manager. At the close of 1902 the share of each employee was $25; at the close of 1903 the amount was $35, and although the amount for 1904 has not been ascertained it will probably reach $40 per employee. There are between 300 and 400 employees who secure the bonus.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, April 26, 1905.*

Curing Hay Fever.—A few years ago Professor Dunbar, of Hamburg, found that by means of a solution of salt it is possible to extract from the pollen of varieties of grass held responsible for the disease a substance which, through its effects upon the mucous membranes of the nose or eye, has shown itself to be the poison of hay fever. What has heretofore been surmised has now been demonstrated—that a peculiar predisposition is necessary to contract the disease. Professor Denker, of Erlangen, has made a series of further experiments, and has published his conclusions in the Munich Medical Weekly Journal. He first vaccinated hay fever patients with the serum prepared by Professor Dunbar, and regretfully ascertained that the remedy did not always produce the desired effect. He resorted to another mode of treatment, consisting in a massage of the mucous membrane of the nose, which must first be rendered insensible by cocaine. The massage is made by means of a probe covered with cotton, and is made once a day, lasting only from two to three minutes for each nostril; later, one minute longer. The results so far observed in eight cases have been very encouraging, and the favorable effects have not only lasted for one year, but have also been noticeable in the second year. As hay fever is very irritating and, on account of its recurrence, very troublesome, a trial of Professor Denker's method is recommended.—*Richard Guenther, Consul-General, Frankfort, Germany, May 16, 1905.*

New Coal Tipple at Fernie, British Columbia.—A Pittsburg firm has been awarded the contract for the erection of the new coal tipple for the Canadian Northern Railway Coal Company at Fernie, British Columbia. The structure will be entirely of steel, fitted in the factory, and the material will weigh over 800 tons. It will be 30 feet wide, will extend across the valley a distance of 900 feet, and will have a capacity for 4,000 tons per day. It will be fitted with all the latest tipple machinery, and when complete will cost $170,000.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, May 9, 1905.*

Shipbuilding in Germany.—In 1904 the German shipyards turned out 278 steamships of 210,999 gross registered tons and 256 sailing vessels of 49,712 gross registered tons. At the beginning of 1905 they had under construction 152 steam vessels of 285,539 gross tons, of which 9 were men-of-war of a total of 69,640 tons. The production for 1904 includes 22 steamers and some sailing vessels, of about 20,000 tons in all, built for foreign account. Shipbuilding is one of the most noteworthy features in Germany's industrial progress and commercial expansion. Formerly the ships employed in German commerce, as also her war vessels, were built in Great Britain and Ireland, whereas now German shipyards turn out the largest and fastest steamships in the world.—*Richard Guenther, Consul-General, Frankfort, Germany, May 3, 1905.*

Letters of Inquiry to United States Consuls.—Under date of March 1, 1905, United States Consul-General Alban G. Snyder, Bogota, United States of Colombia, requests that letters of inquiry from American merchants and manufacturers be in duplicate. If this were done it would greatly aid in their quick dispatch, as the answering of inquiries has come to be quite an item, each mail bringing from fifteen to twenty, and with no clerical force it is almost impossible to answer them all in reasonable time. When the information desired has to be acquired from other sources these letters have to be copied. If received in duplicate the extra work would be avoided and the probability of the letters being carefully and quickly attended to would be increased.

Tax on Commercial Travelers in British Columbia.—Referring to the recent passage by the British Columbia legislature of an act to impose a tax upon commercial travelers representing firms nonresident in the province, the Industrial Canadian says: "This is the most advanced type of provincial legislation; in fact, its constitutionality has been questioned, and the business community in Canada is awaiting the decision of the Dominion government. The provinces have the right to levy direct taxes for the purpose of revenue, but they have no right to enact legislation which will regulate or restrict trade, and the measure referred to will undoubtedly prove a barrier between the people of British Columbia and the other provinces."—*W. R. Holloway, Consul-General, Nova Scotia, Halifax, June 5, 1905.*

German Study of the American Railway System.—Government Councilor Franke, who is one of the chief officials of the Royal Prussian Railroad Division at Frankfort, is about to proceed to the United States to study our railway system.—*Richard Guenther, Consul-General, Frankfort, Germany, April 20, 1905.*

How Germany Secures Trade in the Balkans.—Under date of May 9, 1905, United States Consul Richard Guenther, Frankfort, Germany, transmits the following quotation from an English trade paper:

The great success which German trade enjoys in the Balkan countries is mainly due to the ability and methods of German commercial travelers there. Above all, a knowledge of languages is requisite for doing business in those countries. French is sufficient, as 90 per cent of the merchants there speak that language, but it is still of greater advantage to speak the native language. German manufacturers, therefore, send young men thither who stay two or three months to become familiar with the language and customs of the country. Then they return to Germany, select samples of the goods they propose to sell, and travel throughout the Balkan States to get orders.

Factory Ventilation.—Two men employed in an Edinburgh rope factory have invented an apparatus for carrying off dust and bad air created by the machinery used in the flax industry. The principal sources of dust in a flax-preparing machine are the feed and delivery rollers. Over each of these parts is suspended a duct or flattened tube. An air-propelling fan, driven by belt and pulley, rotates in this horizontal tube. The tube may be made of such size and the fan of such power as to serve for ventilating a number of machines. To the lower part of the horizontal tube, ducts of flattened trumpet-mouth or rectangular shape are hinged at such an angle as to have their elongated narrow mouths over the rollers of one machine, or, it may be, two machines. Sliding doors, rotating grids, or equivalent devices, are fitted in these ducts to regulate the draft of air. Cords or chains are secured to the lower ends of the ducts and carried on pulleys, so that the ducts can be drawn up to give room when the machine is being cleaned or repaired. The dust and bad air drawn away from the machine by the suction caused by the centrifugal fan are carried off by a duct attached to the fan duct, and are discharged in the atmosphere or in any receptacle where water may be employed. The estimated cost of making these machines is $50 each.—*Rufus Fleming, Consul, Edinburgh, Scotland, May 10, 1905.*

Aiding German Export Trade.—The German Imperial ministry of the interior invites German manufacturers and exporters to call at its building, where samples of the qualities and styles of dry goods, etc., most popular in Queensland are exhibited. The collection has been sent to the ministry by the commercial expert attached to the German consulate-general at Sydney for the purpose of enabling German manufacturers desiring to do business with Australia to familiarize them-

selves with its markets and adapt their products to the taste and requirements of its people. The samples were obtained from a leading retail store, which has a large mail-order trade in addition to its city business.—*Richard Guenther, Consul-General, Frankfort, Germany, May 22, 1905.*

Belgian Census.—Under date of May 26, 1905, United States Consul E. Theophilus Liefeld, Freiburg, Germany, transmits the following note from the European Express, Brussels, May 20, 1905, on the Belgian census of 1904:

Official statistics have just been issued in the Belgian Government Gazette relative to the population of Belgium at the end of 1904. Belgium, it may be mentioned, retains its position as the most densely populated country in Europe. The total number of inhabitants in the Kingdom is given as 7,074,910, of whom 3,514,491 were males and 3,560,419 females. There were thus 45,828 more women than men.

Telephone Fishing Appliance.—An English paper reports that a Norwegian has invented a telephone by which the noise made by fish in the depths of the sea can be heard. The instrument consists of a microphone in a hermetically sealed steel box. It is connected with a telephone on shipboard by electric wires, each sound in the water being intensified by the microphone. The inventor asserts that with its aid the presence of fish, and approximately their number and kind, can be recognized. When herrings or smaller fish are encountered in large numbers they make a whistling noise, and the sound made by codfish is more like howling. If they come near the submarine telephone their motion can be distinguished. The flow of water through the gills produces a noise similar to the labored breathing of a quadruped, and the motion of the fins produces a dull rolling sound.—*Richard Guenther, Consul-General. Frankfort, Germany, May 15, 1905.*

British Agency for American Novelty Goods.—A Birmingham firm is desirous of taking up an agency for some patented novelty which would sell well and in large quantities in the British Isles. They tell me that while they manufacture tinmen's and coppersmith's furniture they would not be competitors of the manufacturers of any article they select for introduction here, as they only make fittings for the trade and not the complete article. They claim to have ample showroom and warehouse accommodations for showing and stocking any article, employ six travelers in calling upon ironmongers (hardware dealers), tin-plate workers, and coppersmiths, etc., and state that some specialty in enamel ware, brass goods, or steel goods would be

suitable. They demand, however, the sole right of sale of any article they may select for the whole of the British Isles.—*Marshal Halstead, Consul, Birmingham, England, May 16, 1905.*

Turpentine from Pine Stumps.—The Halifax Herald has information that turpentine is being distilled from stumps of pine trees in British Columbia. The lower parts of the trees are so full of the fluid that they are of no use for lumber, and by aid of stagings the upper parts are cut off above the turpentine section. An American company has put in a plant, and from single stumps is distilling as high as 75 gallons of turpentine, all of which is being sold in the Orient. When it is remembered that turpentine retails in this country at from 90 cents to $1 a gallon, it will be seen that the British Columbia enterprise is a valuable one.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, June 6, 1905.*

Motor Cycles in England.—British manufacturers report a great falling off in the demand for motor cycles, and express the belief that this branch of the industry is doomed. A large number of orders have been canceled, and second-hand machines, hardly the worse for wear, are to be had as low as £18 ($87.60). The collapse of the trade is said to be due to the dislike to the machines owing to their vibration and noise, which eventually become intolerable to the rider, and also to the extreme liability of their delicate mechanism to get out of order.—*John J. Stephens, Vice and Deputy Consul, Plymouth, England, May 24, 1905.*

Opportunities for Contractors in Canada.—Under date of June 6, 1905, United States Consul-General W. R. Holloway, Halifax, Nova Scotia, transmits the following trade notes:

The department of railways and canals at Ottawa is inviting tenders for the supply of stone and the placing of a stone protection along portions of the summit level of the Welland Canal between Thorold and Port Colborne, Ontario.

Tenders for the purchase of debentures of the town of Dauphin, Manitoba, amounting to $35,000, for electric-light plant, power house, and for completing town and fire hall will be received by William Pintoul, secretary-treasurer, at Dauphin, Manitoba.

D. Quinlan, Barrie, Ontario, will receive tenders for the erection of a reenforced concrete arch bridge over the Mad River at Glen Houror, Ontario; also for a bridge with stone abutments and steel superstructure with reinforced concrete floor at the same place.

Destroying Plant Lice.—The Practical Counselor for Fruit and Garden Culture, of Frankfort, recently offered a prize for the best method of destroying plant lice, for which 58 persons competed. The prize was awarded to the author of the following preparation: Quassia wood 2½ pounds, to be soaked overnight in 10 quarts of water and well boiled, then strained through a cloth, and placed, with 100 quarts of water, in a petroleum barrel, with 5 pounds of soft soap. The mixture is then ready for sprinkling on plants infested with lice. Leaves, even those of peach trees, will not be injured in the least by the solution, which can be kept covered in the barrel from spring to fall without deterioration. As soon as lice appear the leaves should be sprinkled with the solution. If this is repeated several times the pests will disappear.—*Richard Guenther, Consul-General, Frankfort, Germany, May 27, 1905.*

Imports of Starch into Uruguay.—Under date of May 5, 1905, United States Consul John E. Hopley, Montevideo, Uruguay, transmits the following statistics, prepared at the request of an American correspondent:

Imports of starch into Uruguay during the years 1898 to 1903.

Whence imported.	1898.	1899.	1900.	1901.	1902.	1903.
	Metric tons.	*Metric tons.*	*Metric tons.*	*Metric tons.*	*Metric tons.*	*Metric tons.*
Belgium	102.6	81.5	73.3	97.0	54.3	29.7
France	7.4	1.2	1.2	2.2	1.7	8.2
Great Britain	1.9	16.5	4.5	.6	.....	10.2
Germany	169.0	158.6	173.3	142.9	166.7	233.5
Italy	.2	.....	5.9	.2	10.4	24.9
United States	9.9	.7	.7	5.6	.....	3.3
Total	291.0	258.5	258.9	248.5	233.1	309.8

Gutta-percha and Rubber Trade of Singapore.—The German consul-general at Singapore reports that gutta-percha exports to the value of $6,570,000 were shipped from that port in 1903, coming chiefly from Dutch North Borneo, Penang, and Sumatra, and a smaller amount from the Sulu Archipelago. Of the amount exported, $3,891,464 worth went to Great Britain, $2,213,019 worth to Germany, and $207,131 worth to the United States. The statistics for 1904 are not yet complete.

In 1903 Singapore exported $236,297 worth of India rubber (nearly all to Great Britain) and $1,108,989 worth of Borneo rubber, of which $336,121 worth went to Austria, $372,922 worth to the United States, $216,150 worth to Great Britain, and smaller amounts to Japan, France, Italy, and Germany. The shipments of Borneo rubber during 1904 have considerably increased.—*Richard Guenther, Consul-General, Frankfort, Germany, May 16, 1905.*

Sugar Cane Seed and Cotton Seed for Peru.—Under date of May 9, 1905, United States Minister Irving B. Dudley, Lima, Peru, transmits a translation of two decrees issued by the Peruvian Government as to the proof required that sugar cane seed and cotton seed are free from contagious disease before they may be imported into that country. The issuance of the ruling was occasioned by an official report of the Peruvian consul at Honolulu that a contagious disease existed in the sugar cane seed of Hawaii. Both decrees are covered by the following resolution:

The seeds of sugar cane and cotton of foreign origin shall not be admitted into this country except upon previous proof by the certficate of the official entomologist of the place from which they come that they are free from all disease. This shall be verified upon their arrival by an examination, to be made by the commission of vegetable pathology, and a certificate shall be gratuitously issued.

Suez Canal Traffic.—A parliamentary paper just issued contains the returns of the navigation through the Suez Canal for 1904. The net tonnage for the year shows an increase of 1,494,547 tons compared with that of 1903, the increase being due to heavy shipments of wheat from India to Europe, and to the large quantities of coal consigned to the East. The latter exceeded the shipments of 1903 by about 500,000 tons. During the year 4,237 vessels passed through the canal, of which 2,679 were British. There was an increase in 1904 of 1,430,376 tons in the tonnage of British vessels as compared with 1903, viz, 7,403,553 tons in 1903 and 8,833,829 tons in 1904. The tonnage of German vessels increased from 1,773,265 tons in 1903 to 1,969,561 tons in 1904. In the year 1870, when the canal was opened, 26,758 civil and military passengers were carried through the canal; in 1904 the number was 210,849.—*John J. Stephens, Vice and Deputy Consul, Plymouth, England, May 26, 1905.*

Municipal Electricity in Leeds.—The accounts of the electric department of the Leeds corporation for the financial year ended March 25, 1905, have just been made public. The gross profit amounts to $280,260, against $227,685 in the financial year 1904, but after allowing for interest and redemption there is a surplus of only $1,410, as compared with $17,150 surplus in 1904. The receipts from sales for lighting have increased from $334,075 to $367,985, and the receipts for power from $44,535 to $54,095. No explanation is given as to why the interest and redemption fund was so much larger in 1904–5 than in 1903–4, reducing the net profits to a nominal figure, notwithstanding the fact that the gross profits were over $33,000 larger.—*Walter C. Hamm, Consul, Hull, England, May 31, 1905.*

Mutilated German Bank Notes.—A recent occurrence has caused the administration of the German national debt to announce the regulations regarding indemnification for bank notes mutilated or unsuitable for circulation. The public is generally of the opinion that bank notes for 5, 20, and 50 marks torn, partially burned, or otherwise mutilated will be cashed by the exchequer, upon presentation, if the number of the note is still on the portion presented. This is erroneous. According to existing regulations, the administration only redeems mutilated notes if the piece presented forms a part of a genuine bank note and the fragment is larger than one-half of the entire note, so that not the owner of the part of it containing the number but the person presenting the larger portion of the note will be entitled to payment. The national banks have been instructed to accept in payment mutilated notes, including soiled notes or notes pasted together, only when they are fit for circulation beyond doubt. If the notes are rejected the owners must apply for reimbursement to the administration of the national debt direct. Mutilated bank notes for 100 and 1,000 marks are cashed only when the owner presents a fragment larger than one-half of the note or can furnish proof that the missing portion of the note has been destroyed. For lost or destroyed bank notes no claim for indemnification can be made.—*Hugh Pitcairn, Consul-General, Hamburg, Germany, May 23, 1905.*

Chinese Language and Chinese Trade.—The German consul-general at Shanghai, Doctor Knappe, has addressed circular letters to the German business firms in his district admonishing them to cultivate a knowledge of the Chinese language in order to be able to meet Japanese competition which, he says, after the close of the present war will extend into western and northern China. The present system of selling goods through the agency of compradores will change, and ere long the trade will have to be carried on by the foreign houses direct. This will necessitate their employees coming into personal intercourse with the Chinese purchasers, and for that reason a command of the language of the latter is requisite. In short, the western nations must do as the Japanese do if they do not want the latter to monopolize the trade. The consul-general proposes tuition courses for instructing the German clerks and employees in the Chinese language, and offers the quarters of his consulate and the assistance of his interpreters. The admonition of the consul-general applies with even greater force to American interests, because China will become one of our most valuable markets and an outlet for our surplus products.—*Richard Guenther, Consul-General, Frankfort, Germany, May 5, 1905.*

Emigration via Bremen and Hamburg in April, 1905.—The number of emigrants to the United States via Bremen in April, 1905, was 20,424, of whom 1,915 were Germans, 5,538 Austrians, 9,847 Hungarians, 2,545 Russians, and 579 of various other nationalities. The remainder of the emigration via Bremen during the same month was as follows: To Great Britain, 307; South America, 1,189; Africa, 7; other countries, 139. The emigrants via Hamburg to the United States in April numbered 11,634, of whom 1,198 were Germans, 4,957 Austro-Hungarians, 5,016 Russians, and 463 of various other nationalities. The remainder of the emigration via Hamburg for the same month was as follows: To England, 1,032; Argentina, 324; Mexico and Central America, 28; other South American States, 18; West Indies, 14; Africa, 219; Brazil, 154, and to British North America, 904. The aggregate number of emigrants to the United States during the month of April, 1905, via Bremen and Hamburg was 32,058, of whom 3,113 were Germans, 20,342 Austro-Hungarians, 7,561 Russians, and 1,042 of all other nationalities.—*Frederick Hoyermann, Vice and Deputy Consul, Bremen, Germany, May 18, 1905.*

Canadian Tin Plate and Sheet Steel Combination.—It has been announced that the promoters of the tin-plate factory at Morrisburg have secured control of the Canadian Tin Plate and Sheet Steel Company, that Montreal and Toronto capitalists have become interested, and that the work will go on at Morrisburg. The capital stock will be $1,500,000. It will require 28 mills to turn out the sheet tin plate, etc., required, and there will be 3,000 operatives employed. Two hundred practical operatives will be brought from Wales to instruct the others. Mr. Lewis, of Cardiff, is interested and has the management. An oil-refining company will erect a tank, oil-can, and barrel factory adjoining the works.—*John E. Hamilton, Commercial Agent, Cornwall, Ontario, May 27, 1905.*

Manufacture of Pig Iron in British Columbia.—A group of claims of specular hematite iron ore is located at Crawford Bay on the north arm of Kootenay Lake, about 25 miles from Nelson, British Columbia. I am informed that the owners have entered upon the development of this deposit, and it is expected that they will soon be manufacturing pig iron upon a large scale. It is said that adjoining the iron ore there is a large deposit of limestone needed for a flux in smelting iron ores. Both deposits are said to be practically unlimited, and that the iron ore is the finest yet discovered in the eastern portion of the Province.—*L. Edwin Dudley, Consul, Vancouver, British Columbia, May 30, 1905.*

Chemical Automobile Fire Engine.—According to German papers, Leicester, England, claims to be the first city in the world to have a chemical automobile fire engine. An automobile, capable of traveling over 30 miles an hour, carries the apparatus, which consists of a large cylinder, partly filled with water in which carbonate of soda is dissolved. A bottle filled with sulphuric acid is at the top of the cylinder, and when a stream of water for extinguishing a fire is needed the bottle is turned upside down, whereby the acid flows into the solution of soda, and carbonic-acid gas is developed. The mixture is kept stirred up by means of rotating blades. Carbonic-acid gas is so quickly formed that the pressure in the cylinder soon amounts to 150 pounds. This is sufficient to throw 40 feet high a stream four-fifths of an inch in diameter. When this water reaches the fire, the carbonic-acid gas escapes in large quantities, crowds out the air, and prevents combustion. The cylinder is pumped out in four minutes. The city authorities will probably soon make a report as to the efficiency of the engine.—*Richard Guenther, Consul-General, Frankfort, Germany, May 16, 1905.*

Hospital Supplies for Europe.—I have at various times called the attention of American manufacturers of sanitary furnishings, bathing and heating apparatus, surgical contrivances and instruments, etc., to opportunities for introducing their products into European hospitals, sanatoriums, and bathing resorts. American ingenuity and skill has much to offer in these lines that is superior to European appliances. It requires only personal push to obtain foreign orders for improved articles. The large majority of our manufacturers lack knowledge of foreign languages and trade conditions, and are therefore loth to explore markets which can be profitably worked only by the personal efforts of experts. As nearly all foreign nations are represented in our population it would be well for American manufacturers and exporters to employ and train young Germans, Russians, Spanish-Americans, Chinamen, Japanese, Italians, Greeks, and Turks with a view of sending them abroad as missionaries for American trade.—*Richard Guenther, Consul-General, Frankfort, Germany, May 12, 1905.*

Japanese Fancy Matting for Export.—In the Japan Official Gazette of May 15, regulations are promulgated prohibiting the export of fancy matting, except that which has passed the examination of the matting conditioning house. The ordinance is not to be enforced on matting for which the minister of agriculture and commerce has given his certificate. This measure has been taken with a view to secure the uniform good quality of matting sent to foreign countries.—*Lloyd C. Griscom, Minister, Tokyo, Japan, May 16, 1905.*

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Washington, June 26, 1905.

To whom it may concern:

Section 4 of the "Act to establish a Department of Commerce and Labor," approved February 14, 1903 (32 U. S. Statutes at Large, 825), provides:

" * * * that the Secretary of Commerce and Labor shall have control of the work of gathering and distributing statistical information naturally relating to the subjects confided to his Department; and the Secretary of Commerce and Labor is hereby given the power and authority to rearrange the statistical work of the bureaus and offices confided to said Department, and to consolidate any of the statistical bureaus and offices transferred to said Department; * * * and said Secretary of Commerce and Labor may collate, arrange, and publish such statistical information so obtained in such manner as to him may seem wise * * * ."

Under the authority of this section it is hereby ordered that on the 1st day of July, 1905, the Division of Consular Reports in the Bureau of Statistics, including the clerical force, all records, papers, books, supplies, furniture, files, etc., shall be transferred to the Bureau of Manufactures, and the work now being performed by said Division of Consular Reports shall be continued on and after said date under the direction of the Chief of the Bureau of Manufactures.

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V. H. METCALF,
Secretary.

MONTHLY CONSULAR *and* TRADE REPORTS

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TRADE CONDITIONS IN NORTH BRAZIL.

No. I.

EUROPEAN MANUFACTURERS HAVE ADVANTAGES.

Mr. Lincoln Hutchinson, one of the special agents of the Department of Commerce and Labor, who was assigned to investigate trade conditions in South America, contributed three highly interesting letters descriptive of his travels and observations in the northern States of Brazil, which were printed in the Daily Consular and Trade Reports this month. Mr. Hutchinson's first letter was written from Pernambuco, and is largely devoted to business conditions in that State. His letter follows:

Pernambuco, or Recife, as it is more often called, is a city of some 200,900 inhabitants, and is the capital and only important port of the State of the same name. The total population of the State is about 1,000,000. Of this population, however, only a very small percentage can be regarded as having reached any considerable degree of economic efficiency.

Climate and lack of incentive have led to extreme indolence; there seems to be no ambition for better things, and there is but small demand, relatively, for foreign goods. The mass of the people want but two or three things which they can not get at home—a little cotton clothing, some "provisions" (mostly jerked beef from Argentina), and some kerosene and candles for lighting their huts. All better classes of goods, such as finer textiles, luxuries, machinery, railway material, etc., are in demand only as a result of investments of foreign capital and not because of an extensive native desire for them. Some of the agricultural enterprises of the State and most of the manufacturing and transportation activities are in the hands of foreigners. These enterprises are mostly controlled from the home countries of the investors, and all the more important employees come out from the home country on rather short contract—from three to five years. Under these circumstances it is not surprising that orders for goods tend to go to the country whose capitalists have made the investments here. One or two examples will suffice to illustrate the point.

ENGLISH CONTROL OF INDUSTRIAL ENTERPRISES.

The Great Western Brazilian Railway controls the lion's share of the 500-odd miles of railroad in the State. It is an English concern, and all the cars, locomotives, rails, wheels, coal (where wood is not available), and even the simple furnishings of the stations are imported from England. Again, in a large sugar mill (one of the largest in Brazil), at Tiuma, the equipment is almost exclusively of English make. although the assistant manager admitted freely that it was old and out of date and could better be replaced from the United States. In fact, the need for better boilers has become so urgent that preparations are now being made for the installation of one set of American make.

The same is true of the cotton factories, of which there are several flourishing ones in the State. They were established under English influence and partly at least with English capital. English workmen were brought over on contract from Lancashire, English machinery was installed, and even now, although native capital is said to have largely replaced English in the enterprises, the equipment continues to be English.

Not only is it true that the industrial enterprises of the country thus tend to draw their equipments from Europe, but most of the employees, managers, superintendents, clerks, operatives, etc., naturally desire to purchase goods to which they have been accustomed at home, and American goods, even though they may be better and cheaper, are likely to be overlooked.

NATIVES HAVE FEW NEEDS.

So much for the imports which are demanded by the larger enterprises and the foreign population of the country. When we come to the consideration of the goods demanded by the native population, quite different elements enter to determine the sources from which the supplies are drawn. The needs of the bulk of the people at present are comparatively few beyond the things which nature supplies them so freely in a climate like this. Their food is of the simplest sort, with little variety; their clothing is very scanty, except on holidays and feast days, when it is of the cheapest and showiest kind, and their other demands are so few as to require only the barest mention—a few household utensils, two or three pots and pans, cheap candlesticks and tin oil lamps, and various little odds and ends of ornaments. The principal foods are raised in the country. They consist mainly of mandioca, maize, bananas, and other native fruits. In addition, large quantities of "jerked beef" are consumed, the supplies coming from the more southern States of Brazil and from the River Plata countries. Wheat flour is used by some of the better classes, but a good deal of the supply now comes from the south, shipments going as far north as Manaos, in the Amazon Valley. The demand for foreign goods is therefore comparatively small, and the principal commercial activity of this entire section is concerned mainly with the export trade in the raw products of the country. The most important of these is sugar, the larger part of all that is not consumed in the State being sent to the United States. Cotton and cotton seed are also sent in fair quantities to England, though by far the greater part of the crop is consumed in the textile and oil mills here and in Rio de Janeiro.

AMERICAN BUTTER INFERIOR.

There is one line of foreign goods which is consumed here, and I understand throughout the entire country, in large quantities and by nearly all classes of the population, namely, tinned and other preserved butter. Some of it comes from the United States in kegs and barrels, but by far the larger part is of French origin, being imported in tins of 2 to 4 pounds each. My inquiries as to the reason for this preference for the French product have met with the response that the Americans have not yet learned to preserve the butter so that it will keep as well in a tropical climate as the French. The small French tins are also more readily salable to people whose poverty precludes their buying a large quantity at a time or using it rapidly. Both of these faults are of a kind that the American producer could easily remedy if he were once made fully aware of their importance.

ADVANTAGES OF OUR COMMERCIAL RIVALS.

The total import trade of this section of Brazil is not large, but such as it is it is largely in the hands of the commercial rivals of the United States. With the exception of refined petroleum, patent medicines, and smaller quantities of cordage and twines, bacons and hams (these latter are said to come largely from England and are sold here as York hams), sewing machines, barbed wire, and simple agricultural implements (such as hoes, spades, and axes), and some leather manufactures (such as shoes), our sales may be said to be insignificant. The causes of this condition of affairs are, I believe, not far to seek. It is due, generally speaking, to two most important facts, affecting two quite distinct portions of the population. We have, in the first place, the more effective section of the inhabitants engaged in the larger industries and forming perhaps from 5 to 8 per cent of the total. These are employees of the enterprises which are dependent in one way or another on foreign capital or are in some way connected with these enterprises. And we have seen that this foreign capital is mostly English or European, and only to a slight extent American. The imports needed in the industries themselves, as well as the better sorts of goods consumed by all this dependent population, tend to be sought in the "home country" rather than in the United States. The better class of young men and women among the native population imitate these "foreigners" and demand the same kinds of food, clothing, ornaments, etc.

AMERICAN GOODS TOO GOOD.

As to the remaining 92 to 95 per cent of the population, who stand on a very low level of economic efficiency, the cause of their preference for European goods (so far as they require foreign goods at all) is, I believe, quite different. The most important single factor seems to be their extreme poverty. They can afford to buy only the cheapest and flimsiest grades of commodities, and most of the American goods offered are too good for them. Some of the articles used here, even in the best hotels (such as candlesticks, forks and spoons, inkstands, etc.), are of a kind which it would be difficult to find even in the poorest homes in the United States. To the mass of the people the price of even these almost worthless articles is prohibitive. Yet these goods

are of a kind which it is not an uncommon thing to see in use among the peasantry of Europe, especially in Germany.

The European manufacturer, therefore, has the advantage of a home market for the same classes of articles which he finds in demand here, while the American, if he wants to enter the market here, has to manufacture special grades for which he would have but little sale at home. This is, undoubtedly, a serious handicap, and yet it is one which can easily be overcome if attention is called to it with sufficient emphasis. The grade of goods is so low and the prices to be obtained here, if the articles are only of good appearance, are so high, that the cost of installing plants at home for their manufacture would be insignificant as compared with the profit to be made in the business.

The first-mentioned difficulty also, the handicap resulting from European control of industries here, is not an insuperable one. American capital is looking for foreign investments in a way which was unknown even a decade ago, and the field here is almost unlimited.

No. II.

INDUSTRIES IN BAHIA—DEPENDENCE ON FOREIGN CAPITAL.

Mr. Hutchinson's second letter was written from Bahia, and contains much valuable information regarding the industries of that State and of the business methods that obtain there. Mr. Hutchinson says:

The two most important native industries are the raising of sugar and cotton, both of which grow in profusion. I visited the principal centers of both these industries and noted carefully the methods of cultivation, etc., employed. This was in the State of Pernambuco. There are similar centers in the States of Parahyba and Rio Grande do Norte, which time did not permit me to inspect personally, but through inquiries from those familiar with the industries I learn that processes there were identical with those which I saw. In general, it may be said that nature has been too indulgent to the inhabitants, for the soil and climate produce the commodities in question in such profusion with so little assistance from man that there is no incentive to especial effort or the introduction of improved methods.

Sugar cane and cotton grow wild over a large part of the region, and the native does but little except to see that his little patch is occasionally weeded, that the stalks of the cane are occasionally cleared, and that the crops are gathered when ripe. In neither sugar nor cotton is there anything which corresponds to the "plantation" system of Cuba or Hawaii or of the Southern States of America. Some of the sugar mills do, it is true, hold and cultivate sugar lands, but the relative area of such holdings is small, and the mills in general are content to let the native cultivate the cane on his small "farm" and to purchase the product from him when it is gathered. In regard to cotton this statement is of even more universal application. I have heard of no instance in which the cultivation has been undertaken on a large scale; the natives raise it on their small holdings, harvest the crop, and sell it to the factory or to the exporter.

PRIMITIVE METHODS.

The native methods are crude in the extreme. When it becomes necessary to set out new sugar plants it is done in the usual fashion by

cuttings from the old, but with little of the systematic regularity which is seen on an up-to-date Cuban or Hawaiian plantation. Then the field may be neglected for months. When the time for ripening approaches, the stalks are cleared of all the lower leaves in order to permit freer access of sunlight. After that the only work remaining to be done is to cut the cane when it is fully ripe. The next year even the process of planting is dispensed with, the new crop being allowed to spring up spontaneously from the roots of the old remaining in the ground, and these spontaneous crops are then gathered for five, six, or even as may as ten successive years, until the yield becomes so small as to render a replanting imperative. This growing of spontaneous crops from the old roots is by no means unknown in other cane-producing regions of the world, but in modern plantations, I believe, the efficient limit of the system is considered to be two or at the most three crops before a replanting. In short, there is nothing of the large cultivation, the use of machinery and labor-saving devices, the efficient organization which are now considered essential in the greatest sugar-producing countries. Yet here the possibilities are very possibly unequaled in any part of the world. No irrigation is necessary (as in Hawaii); the crop matures in twelve months (as compared with eighteen months in Hawaii and Cuba); there is abundance of cheap labor (though it is very inefficient when left to its own devices), and the sugar lands lie comparatively near to good shipping ports.

Not only does the absence of modern methods pertain to the raising of the cane; it affects, though in less degree, the mills of the country. In the native mills or "usinas" this might be expected, but it is rather surprising to find it in those established by foreign capital. The crude native mills, I am told, are satisfied if they get 7 or 8 per cent of sugar from their cane; the foreign mills get as high as 12 per cent. A properly equipped mill in Cuba is said to get as much as 17 per cent.

CULTIVATION OF COTTON.

All that I have said in regard to sugar applies likewise to cotton. It grows almost without cultivation as a perennial. In our "South" it is always, I believe, grown as an annual, because this method produces a better fiber. Here the native, with a hoe as his single implement, keeps his little field free from the coarser weeds and when the crop is ripe picks it. The result of this neglect is that the fiber, though naturally a long one, is shorter than it should be, and is very coarse. It is said to be fit only for weaving the coarser and poorer grades of cloth. In the mills established by or under English influence better methods seem to have been employed, and the industry is generally regarded as a flourishing one. Even in these establishments, however, it is said that there has been a falling off in excellence since the substitution of native for foreign management. It is only fair to add, in connection with this last statement, that I have some reason to doubt its impartiality.

In addition to these principal industries in sugar and cotton, there are numerous others carried on on a much smaller scale. Among them may be mentioned brick and tile making, the manufacture of cotton seed and castor oil, soap and candle works, one or two large match factories, etc. Several of these I examined closely, but as they dis-

play the same general characteristics as the larger industries herein described, it will be unnecessary to discuss them in detail.

FOREIGN CAPITAL AND METHODS NEEDED.

It appears to me that the economic future of these north Atlantic States of Brazil is going to depend on the introduction of foreign capital and foreign methods in the great industries, particularly the agricultural, for which nature has especially fitted this section of the country. Manufactures proper, for reasons which I shall endeavor to give in a future letter, are far more likely to develop in the States farther to the south; the staple products of these northern lands will remain as now—sugar and cotton. If American capital can be induced to invest in up-to-date enterprises there, greater purchasing power will be developed among the population and the market for American goods will be increased. Until such time it must be admitted that the outlook for sales of American products will remain poor.

COTTON GOODS AND PRICES.

In the report of Thomas Worthington to the British Board of Trade in 1898 there are given lists of goods of various sorts used in the Brazilian market, with descriptions, sizes, etc. Without attempting to duplicate the work which Mr. Worthington has done so well in his reports, I have endeavored to gather such information as would serve to supplement or confirm what he has said. Of course, my time here has as yet been far too short to enable me to get anything like a complete set of figures, but it may be well to mention a few of the more striking illustrations of the prices which hold here. These I give in the following list, the prices being retail in the Pernambuco shops:

Cotton goods are of coarse, heavily sized kinds, with good variety of soft colors—the people seem fond of many colors, but not of the brilliant, gaudy kind—checked, striped, or figured. They are usually from 26 to 32 inches in width, and are sold usually by the meter, though sometimes also by the yard. The grades most in demand, I am told by an expert, are such as cost, in the Lancashire mills, from 3 to 4 cents per yard. I saw such goods offered in Pernambuco at all the way from 240 to 400 reis per yard—i. e., at the present rate of exchange, 8 to 13 cents per yard. After deducting the duty and the consumption taxes, which together range from 100 to 120 per cent ad valorem, this leaves a large margin to pay freight, insurance, and profit. Cotton "prints" are used only by the wealthier classes.

Cotton duck, unbleached, used largely for making trousers, is also of the cheapest variety, the lowest price which I found in the Pernambuco shops being 20 cents per yard.

Cotton bath towels, such as could be bought in New York at from 50 to 75 cents, are sold at $1.15.

Cotton negligee shirts, which retail in the United States for from 50 cents to $1, sell here at from 65 cents to $2.

FOOTWEAR.

Footwear among the mass of the population in Pernambuco is comparatively little used, a large percentage of the people going barefoot,

except on Sundays and holidays. When worn at all, their foot covering consists mainly of very inexpensive sandals or slippers or of shoes which look as if a single week's steady wear would use them up. The sandals and slippers appear to be almost wholly of native make, and the same is true of most of the shoes. These shoes of native make retail at from $1.65 to $1.85 for pegged, to from $2.65 to $4.35 for sewed. The pointed styles are very much in vogue, and I saw none of any other sort except among the imported goods. These imported shoes are worn only by the more well-to-do residents, and prices seem to be absurdly high. In several shops I saw American shoes, which at home could be had for certainly not over $2.50. On pricing them I found that they are selling in Pernambuco for $10. Why they should be so high I have thus far been unable to learn. The duty of about 120 per cent ad valorem and the consumption tax of 500 reis (17 cents) only partially account for it.

In my notes I have recorded the prices of various other articles, but the above will be sufficient to illustrate the main fact which I wanted to bring out, which is that the prices asked for even the cheapest grades of goods are very high as compared with those in the United States and Europe. In the main, prices remain just about at the level reported by the British commissioner seven years ago; at least, the prices in milreis remain the same, though the gold equivalents have risen enormously on account of the steady rise in exchange.

FLUCTUATIONS IN EXCHANGE.

With regard to the recent rise in exchange, that is a subject of the utmost intricacy, and I am not at present in a position to give anything like an exhaustive discussion of it, yet there are certain of its more salient features which can not escape the attention of the observer and are of such importance in any study of commercial conditions that they demand immediate notice.

In 1889, just after the Revolution, exchange was for a short time at par—i. e., the value of the milreis was 27d. [54 cents]. Almost immediately a decline began. In 1891 the average was 16 5/8d. [32.6 cents]; in 1897, 7¾d. (15.5 cents). The fall continued until about 1899, when it reached bottom at less than 6d. [12 cents]. But since then there has been an upward movement, at first slow and then more rapid. In January of this year it stood at 12d. [24 cents], but has since then jumped to nearly 17d. [34 cents]. The highest point was, I believe, on the 18th, when it reached 16¾d. [33.5 cents]. As I write (May 30) it is quoted at 16 5/8d. [32.6 cents]. The daily fluctuations have at times during this month been as great as ¾d. [1.5 cents].

The fluctuations, and more particularly the persistent rise, are exercising a profound influence on all business conditions, and it will be worth while to examine the various effects separately. First, as to the fluctuations. This is a country in which all sorts of games of chance and all kinds of gambling seem to be especially alluring to the people, and the conditions now existing have given sudden impetus to the already prevalent practice of speculating in currency. Men are turning their attention from the more legitimate commercial activities to the taking of chances on the rise or fall of the exchange market. Even in the more ordinary transactions of purchase and sale, wherever

time elapses between the making and the fulfillment of the contract, the same element of chance is introduced and a feverish tone is given to all commercial dealings. Of course this fact in itself is nothing new in Brazil, where exchange has been at par only once in several decades, but present conditions are accentuating the difficulty and rendering legitimate business particularly hazardous. One is reminded of the conditions in the United States after the civil war and before the resumption of specie payments. The effect on import trade lies in the fact that the importer, in estimating the price he can afford to pay for foreign goods, is forced to allow a large margin to cover contingencies of exchange fluctuations, and fine distinctions as to cost, in those lines of goods in which competition is close, is rendered impossible. Under such conditions the importer naturally orders his goods in those countries from which he thinks he can get quickest delivery, and these, he thinks, are England and Europe. Whether he is right or not is another question.

Thus the more important effects of the fluctuations of exchange seem to be the speculation introduced into ordinary business dealings of all kinds and the uncertainties added to the import trade. The results of the rise in the value of the milreis are quite different, but are even more far-reaching. Their nature depends upon the character of the business affected and must therefore be examined in detail.

EFFECTS OF FLUCTUATIONS.

The purely local dealer, i. e., the man who receives his income in milreis and whose expenditures are also in milries, is but little affected, and only indirectly. To him a milreis is a milreis and nothing more nor less. He cares but little whether it happens to be quoted in London at 6d. [12 cents] or 16d. [32 cents]. But to the man who receives his income in sterling or other foreign values, and whose expenditures are in milreis, or the man whose outgo is in foreign values while his income is in milreis, it becomes a very vital matter.

To illustrate (and I take these illustrations from actual cases which have been quoted to me), most of the employees of foreign-controlled enterprises here—in banks, railroads, mills, etc., representatives of foreign governments, etc.—receive their salaries in terms of the money of their home countries, usually fixed on the basis of supposed stable value of the milreis. The most usual of the supposed stable base value of the milreis seems to be, so far as I can learn, 10d. [20 cents]. So long as the value of the milreis did not exceed this 10d. [20 cents] there was no injustice, but the moment exchange rose higher the man's real income was diminished. Supposing his salary to be $200; at 10d. [20 cents] to the milreis he was able to convert this into 1,000 milreis with which to pay his current expenses. With exchange now at 16d. [32 cents], instead of 10d. [20 cents], his $200 produces only 625 milreis, while all retail prices, and hence his current expenses, remain exactly what they were before. Thus, while his income remains nominally unchanged at $200, it has really been reduced by nearly 40 per cent. I have heard of these facts in so many different quarters that there can be no question as to their reliability. In eight years' time, since 1897, the value of the milreis has risen from about 7d. [14 cents] to over 16d. [32 cents], and yet house rent, servants' wages, hotel rates, retail prices, etc., have remained virtually unchanged in milreis.

FOREIGN TRADE DISTURBED.

If this condition of affairs affected salaried persons only, we might dismiss the subject here as being of rather insignificant importance as concerns the real economic activities of the country; but the effects go deeper and threaten seriously to disturb foreign trade. It is said, for example, that the coffee producers are threatened with ruin. They depend almost wholly on a foreign market, the price of their crop is fixed, not here in Brazil, but in Europe, and their income is virtually in sterling. Their expenditures, on the other hand, are mainly, like the bank manager's, payable here and in milreis. If wages, transportation rates, taxes, etc., fell as the price of the milreis rose, the producer's position would remain unchanged; but, unfortunately for him, they do not, and his outgo remains the same while his income is decreased. His sterling income buys fewer milreis, but he has to pay out just as many of them as before in order to produce his crop. Of course, in time, wages and rent and retail prices, etc., would become adjusted to the increased value of the milreis, but such a process is always an extremely slow one even under the most propitious circumstances, and under the conditions existing here, where there is no certainty that the present high value of the milreis will be maintained, such an adjustment must be a matter of many years. Meantime business suffers.

In the case of local factories which are competing with foreign imported commodities, still another element enters in. Take, for example, the cotton mills. At the former charges for rent, wages, taxes, etc., they were able to build up enterprises which carried on a successful competition with English and European concerns, at least in the manufacture of coarser grades of goods. Now they find their nominal position unchanged; their income in milreis is unaltered (they sell for milreis in the local market at the same prices as ruled before); and most of their expenses, being in milreis (for rent, wages, taxes, transportation, etc.), are also unchanged. But the position of their foreign competitors is no longer what it was, for the prices at which they can now sell their goods in Brazil, in milreis, are convertible, at present rates of exchange, into more than the former equivalent in pounds or dollars. A yard of cotton goods formerly selling at 300 reis, still sells at the same price, but on the 1st of January, this year, these 300 reis were worth only 7.2 cents in the money markets of the world, while to-day they are worth 9.6 cents. The local mills can not reduce prices so long as their fixed expenses remain the same, and the foreigner can step in and undersell them. This is what has taken place during the sudden rises in exchange before, and it is sure to happen again. If American manufacturers are alive to the occasion they will profit by the opportunity to get more of a footing in these markets. There is evidence that European producers are already doing so, and the less flourishing condition of the local mills is probably due to this just-mentioned cause.

No. III.

LACK OF BANKING FACILITIES HINDRANCE TO TRADE—DIFFERENT METHODS OF CONDUCTING BUSINESS.

The third letter received from Special Agent Hutchinson was dated from Rio de Janeiro, and completes his observations of the northern States of Brazil. This is largely supplemental to the second letter and is devoted mainly to Bahia.

The city of Bahia is a place of some 200,000 inhabitants, situated on a magnificent bay which is one of the finest harbors in all South America. It is the capital and principal port of the State of the same name, a district which contains some 170,500 square miles and has a population estimated at 1,700,000, or about 10 to the square mile. The staple product is tobacco, though cacao and diamonds and other mineral products are also important articles of export. The value of the tobacco crop alone is officially stated at about $2,000,000. More than two-thirds of it is exported, going mainly to other States of Brazil, to Argentina, Uruguay, and Europe. The total exports of the State are stated at a value of about $4,700,000, other items than tobacco being sugar, coffee, cacao, cotton, hides, rubber, woods, and minerals.

This section of Brazil produces a far better impression on the observer than the country which I visited farther to the north. In my report on Pernambuco I expressed the opinion that the outlook for the development of the resources of the country, and hence the development of export and import trade, through native initiative, was rather discouraging. Bahia does much to incline one to take a more hopeful view. The people appear better fed, better clothed, more energetic and prosperous than in the hotter regions farther north. There are better buildings, better pavements, and better transportation facilities within the city, and the shops display a higher grade of goods than in Pernambuco. Of course, I am speaking relatively only, for Bahia needs much yet before it can be compared with a modern, progressive European or American town.

URGENT NEEDS OF BAHIA.

Probably the most urgent needs of Bahia are better shipping facilities in the harbor and cheaper and better transportation connections with the interior. The harbor has wonderful possibilities, but as yet they are undeveloped. There are no docks available for any but the very small bay steamers, and all loading and unloading from ocean-going vessels has to be done by means of lighters. The small coasting steamers anchor about half a mile from shore; larger ones do not approach within a mile or more. As to the railroads a single illustration will suffice. I made a journey over one of them to the town of Alagoinhas, which lies on the edge of one of the large tobacco districts. The road on which I traveled forms one part of a sort of dual "system" which connects the city of Bahia with Joazeiro, on the São Francisco River. This section was built by an English company in 1858 to 1863, and the equipment is wholly English. Its length is 75½ miles and the gauge is 1.6 meters [5 feet 3 inches]. It is now the property of the Federal Government and is operated on lease by a native company. The other section of the line, from Alagoinhas to

Joazeiro, a distance of 285 miles, was completed in 1896. It is of American construction and equipment and is, like the Bahia-Alagoinhas section, owned by the Government and operated on lease by a native corporation.

Unfortunately, this second section is of narrow gauge, 1 meter [3.28 feet], and a transfer of all freight at Alagoinhas is necessary. As all such transfers are made by hand, they consume much time and add much to the freight charges. In addition to this, the road is in poor condition, the management appears to be inefficient, and the speed attained is very slow. It takes two days to make the journey, in passenger trains, from Bahia to Joazeiro, a distance of only 360 miles. Freight rates are so high that it is said a considerable part of the imports of the interior portion of the State of Bahia are sent in by rail from Rio de Janeiro, carried some 25 miles on mule back to a point on the São Francisco River, and then floated downstream into Bahia, much to the detriment of the commercial activity of the city of Bahia. With such conditions existing it is not suprising to hear that the trade of the port of Bahia has declined in recent years. As to the actual import trade of the State little need be said at present. In general character it is the same as that of the entire eastern coast of Brazil.

LACK OF BANKING FACILITIES.

I have been gathering information as to banking facilities in the places which I have thus far visited. My sources of information have been the American consuls and their agents, resident importers, and commercial travelers—English, German, and American. The accounts I have are conflicting and confused, but I think I am justified in making the following statements as representing, approximately at least, the existing conditions. It is well known that there are no American banks in Brazil, while there are several large English ones, some German, and one or two Italian banks. It is claimed by many, both here and at home, that this lack operates as a serious handicap to the exporters of the United States, and the question I have set before me is to determine whether such an opinion is correct, and if so, how important the disadvantage really is. To answer this question it is necessary, first of all, to examine the methods by which payments are made for imported goods. I have learned that there are at least four different ways of conducting the business, and these differences in method probably account for the variety of opinions I have received as to the necessity for American banks. These four methods may be described very briefly as follows:

(1) The exporter from Europe or America after shipment of his goods, draws at from ninety to one hundred and twenty days on the Brazilian importer's London account and then discounts the draft or deposits it for collection with his own bank.

(2) The exporter draws directly against the importer in Brazil and discounts the draft at his home bank.

(3) The exporter draws directly on the importer and deposits the draft for collection.

(4) The importer (in Brazil) upon receipt of the bill of lading, or of the goods, or at a certain agreed time thereafter, buys a New York or London draft from his bank here and remits it to the exporter.

The use of one or the other of these various methods in particular

transactions obviously depends upon many considerations, such as the size of the business, its frequency and regularity, the time allowed for payment, the credit of the importer and of the exporter, etc. The large, long-established, well-known importing houses here use the first of the above methods, and men connected with such concerns and having many years' experience in importing from both Europe and America, laugh at the idea that the question of ownership and control of the banking machinery cuts any figure at all in determining the source of imports. Such importers make no remittances direct to New York in payment for American goods. The American exporter, as already stated, simply draws against the importer's London account, and all the importer has to do is to see that when the draft matures the credit is in London to meet it.

DIFFICULTIES FOR AMERICANS.

With smaller concerns and in smaller transactions, however, especially in sales which are more casual in character and not repeated at regular intervals, some one of the last three methods of payment has to be employed, and in such cases there is reason to believe that some difficulties stand in the way of American exporters. For example, I am told that American exporters to smaller houses here often use the second of the methods mentioned above and sometimes the fourth. English and German exporters, on the other hand, when dealing with smaller concerns here, are more often able to use the second method, and thereby gain some advantage over the American. English and German banks having branches here, or at least direct connections with banks here, find it safe to discount drafts against Brazilian importers, while a New York bank, lacking such connections, can only receive them for collection. The American exporter, therefore, is obliged to wait longer for his money. With the fourth of the above methods, too, there is some disadvantage to the American exporter, for the purchaser here is able to purchase drafts on London cheaper than on New York. The extent of this difference I have been unable to learn.

There is still another disadvantage under which the American exporter labors in the smaller transactions with Brazil. It has to do with the possibility of obtaining reliable information concerning the financial standing of the less-known Brazilian firms. European and English banks having connections here perform this important service for their home customers. American banks are able to do so only in much smaller degree. The importance of such a service is emphasized when we recall the fact that there are no mercantile agencies in Brazil. There is one in Argentina, but it is not all that is desired. American exporters are consequently forced to rely to far greater extent than their European competitors upon the judgment of their travelers or resident agents.

SMALLER TRANSACTIONS MORE CONCERNED.

From what has been said it will be seen that there is undoubtedly a certain disadvantage to American exporters, resulting from the lack of American banks in Brazil. But there seems to be some question as to whether the results are so far reaching as is sometimes supposed. The

handicap apparently affects only small concerns and small transactions. In the large affairs there seem to be no complaints. The question of the aggregate importance of the disadvantage resolves itself therefore into the further question as to the relative amounts of trade involved in the large and small dealings. On this point I am, as yet, unable to give an opinion. In Pernambuco I was led to think that a large proportion of the import trade was in the hands of a few large import houses.

In Bahia, on the contrary, I found that large importers were the exception, and that most of the retailers bought their supplies directly from the travelers of American and European houses. The real answer to the question must be found here in Rio. By far the greater part of the trade of the entire country passes through this port, and the proportion of large to small transactions here may be taken as an index to the conditions existing in all parts of Brazil.

A FORMER STATEMENT MODIFIED.

There is one statement which I made in my last letter which I find it necessary to modify. In connection with the subject of the phenomenal rise in exchange and its results, I said that while the value of the milreis had risen in the past six years from about 6d. to over 16d., the retail prices of commodities had remained exactly at their old level. I find that I was misinformed, or else that prices in Rio have followed a somewhat different course than in Bahia or Pernambuco. Here there appears to have b en some decline in prices. I do not yet know the extent of this decline, but it is certain that it has been small as compared to the rise in exchange. The results of the rising exchange, as I described them in my last, are therefore none the less real, though the importance of them is slightly modified by a little easing of prices.

Among the results of rising exchange I mentioned the fact that it was enabling foreign cotton manufacturers to undersell the local factories in some of their strongholds. Shortly after mailing my letter I chanced upon a fine illustration of this influence: A German commercial traveler, while I was in Bahia, in a single day succeeded in selling 30,000 marks' [$7,140] worth of cottons in direct competition with the local mills, which are among the most important in Brazil.

BRAZIL'S VAST RESOURCES.

As I come farther south I am more and more impressed with the vast resources and possibilities which lie in this great country. I am finding evidence, too, that is rather encourging to one who is desirous of seeing an improvement in American trade here. I hear on all hands comments as to the energy with which Americans are introducing new and improved methods into their dealings with Brazilian purchasers. What some of the more important improvements are I shall report at some future time, when I have gathered more definite information.

INDUSTRIAL CHINA.

HER POSITION IN THE SILK TRADE.

In the following reports Consul Anderson furnishes an excellent idea of China's industrial and commercial tendencies. The reports on silk are particularly interesting and instructive. The series begins with a letter on China's position in the silk trade:

The future of the silk trade of China merits the most careful consideration, not only of silk producers and manufacturers but also of all men having relations with exports to or imports from the Far East. Forty years ago silk constituted 24 per cent of the total exports of the Chinese Empire; last year it constituted 33 per cent, representing a vastly increased amount. Yet in many respects the trade was far from satisfactory. In spite of favorable conditions abroad, Chinese silk is beginning to lose its grip on the markets of the world. It is hardly possible that this is to be the case indefinitely. With modern methods, China will again resume her old position of dominance in the silk business. The silk-producing power of the Empire is enormous. An investigation of the conditions will convince the most skeptical that notwithstanding the part China has had in the silk business of the world in the past its real possibilities are yet to be realized. Even at present silk men generally fail to realize what they can do in the interior of the Empire. The Chinese silk guild and a comparatively small number of middlemen at Shanghai, Canton, and one or two other ports are standing between them and an immense trade.

In reports to the Department heretofore the immense possibilities of cocoon production in the Empire has been shown. It has also been shown how much greater than the present volume the silk business could be upon the same, or practically the same, cost of producing cocoons if more modern methods of culture and production and scientific treatment of silkworms were employed. It is hardly possible that the United States can produce silk cocoons in competition with China under anything like equal conditions. Chinese labor and the peculiar demands of silk production make such competition impossible. If, therefore, the United States is to do anything in the silk business, it must do it with raw material from abroad, and at present China offers the most promising field for obtaining raw silk supplies. When cocoons of the highest grade can be produced and sold to the middleman for not to exceed 3 cents gold per pound it is very doubtful if American silk men can be justified in attempting to produce the raw materials. Already raw silk supplies, especially raw cocoons, and waste silks of the several varieties are to be obtained here at very low prices. With the elimination of the middlemen the purchase of such materials can be made on a very profitable basis. Nor need there be fear that the increased demand for such goods will force prices up unduly.

In China there is a vast population familiar with silkworm culture. A slight increase in the margin of profit to the producer will mean immensely increased production. Already the production is large. Ten of the eighteen provinces of China produce silk, although at present most Chinese silk is produced in Chekiang, Kiangsi, and Kwang-

tung. Take for instance the Chekiang Province, having a total area of 98,700 square miles; the total value of its annual production of cocoons is placed by an expert at $2,500,000, or more than the total production of Fukushima, Shinshu, and Bushu provinces in Japan.

The quality of the first-grade cocoons is excellent. They have a very good color, small fiber, and very small joints. The raw silk produced from them sells for $25, $30, and even $50 gold per 133 pounds higher than those of Japanese production. At present they are the cheapest cocoons in the world, and yet so far as the cost of labor and material is concerned the cost of the production of silk may be further reduced, and will indefinitely remain below the cost of production in Japan, not to mention America or Europe.

As between the two nations in the Far East which produce silk, the manufacturers in the United States need to give the closest attention to China. The silk industry of Japan is highly developed. It represents science and the most progressive business methods. The silkworm in Japan is a well-groomed creature. The Japanese worm is not hatched unless the egg containing it passes scientific examination. Nothing is left to chance. The mulberry leaves fed to the worms are grown upon trees scientifically cared for and protected from disease and pests. There is no loss in the growth of the trees, the hatching of the eggs, or the feeding of worms which do not produce. In China much is left to chance, because the father of the present producer did not know any other method. While the mulberry trees are cared for carefully in some lines, are fertilized and cultivated and stripped of their leaves in the autumn to give them a longer rest in the short winter, there is no protection for them from worms and other pests.

The ravages of caterpillars and animal life generally are not prevented; and the average Chinese mulberry grove produces less than two-thirds of a crop of leaves, as compared with other countries, and especially as compared with what is produced in China itself where the circumstances are more favorable. The treatment of the silkworms is of a similar character. Exposure to frost and snow to destroy the weak worms in the eggs is well enough if there is no better method; but nowadays there are better methods. The disease of the average silkworm stock in China is such that there is a constant and immense loss in worm food for which there is no return. It is calculated by a reliable authority that not more than 700 out of 1,000 eggs will develop worms to live through the several stages, and of this 700 not more than 400 will spin salable cocoons, the other 300 having consumed food to no practical purpose. Such methods as are now employed in China, in fact, are cutting down the product of a mulberry tree fully half; and inasmuch as the groves themselves are more or less diseased there is further loss in this respect. With the acreage in mulberry groves now existing and the trees and worms cared for on a scientific basis the silk product of the Empire ought to be fully twice what it is. Indeed, it is difficult to appreciate the vast increase in silk production in China which will follow the introduction of scientific methods of culture.

In spite of all this loss and these drawbacks, which would in time ruin the silk business if not corrected, the first grade raw-silk product of China is better than similar grades in Japan and probably than in any other country. The Chinese silkworm naturally produces the largest quantity of the finest silk of any silkworm in any country. If

Chinese export of white silk has fallen off, as compared with that of Japan, it is due altogether to a failure to promptly meet the exigencies of the moment and introduce modern scientific methods. The Chinese cocoon, especially cocoons from Chekiang and the northern provinces, is round or egg-shaped, bright in color, with fine fiber, few joints, and a strong thread. Some time ago Mr. Gosaku Matsunaga, of the commercial and agricultural department at Tokyo, made a comparative investigation of the Japanese and Chinese cocoons and reported the following average quality of their production:

Comparative qualities of Chinese and Japanese cocoons.

Kind.	Good cocoons.	Double cocoons.	Waste cocoons.	Cover cocoons.	Total.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
Chinese	83.36	8.62	2.90	5.12	100
Japanese	82.57	10.65	6.78	.....	100

It was further shown that the average weight of cocoons was in the proportion of 2,238 for Chinese to 3,925 for Japanese, while the average weight of 400 circles of silk from the cocoons was in the proportion of 1,909 for the Chinese to 3,023 for the Japanese, thus indicating the fineness of the Chinese fiber.

A comparison of the cocoon fibers generally gave the following results, which are stated in reels or circles:

Comparative weight of fibers of Chinese and Japanese cocoons.

Kind.	First 100 circles.	Second 100 circles.	Third 100 circles.	Fourth 100 circles.	Fifth 100 circles.	Sixth 100 circles.	Seventh 100 circles.	Eighth 100 circles.	Difference between largest and smallest.
Chinese	2.841	2.320	1.863	1.377	1.039	1.056	.....	.....	1.785
Japanese	2.513	2.203	3.057	2.572	1.383	1.383	1.345	0.799	2.269

In length and quality of silk the Japanese cocoons are apparently superior to the Chinese, but in the fineness and uniformity of fiber the Chinese cocoons are superior to the Japanese. In similar stock the Chinese cocoon showed 99 joints to 256 joints in the Japanese. The test of strength was in proportion of 59 for the Chinese to 45 for the Japanese fiber. In color, in ease of manipulation, and in other respects, the Chinese cocoon leads.

Having the advantage of a lower cost of production and natural superiority, Chinese silk production needs only the introduction of modern scientific methods in the culture and care of the mulberry trees, in the examination and sorting of silkworm eggs, and in the care and cure of the cocoons, to control the silk situation, not only in the Far East, but probably in the world at large. Chinese silk men still have an idea that they can and do fix silk prices for all markets. As a matter of fact they can now do nothing of the kind. It is shown in the annual report for 1904 of the Chinese imperial maritime customs that "of the world's supply of silk, at present based upon the average of the past three years—1902 to 1904—and not including the home weaving of China and Japan, China provides 27 per cent (North China 18 and South China 9), Japan 28 per cent, Italy 25 per cent, and all other

countries 20 per cent." Yet if China produces 27 per cent under present conditions, what it can and will produce under scientific treatment ought to be apparent to the silk world. It once took from 400 to 500 pounds of cocoons to make a picul (133 pounds) of silk. It now takes from 500 to 800 pounds. When the former figures are not only reached but are bettered China's real position in the silk industry of the world will be realized.

It certainly can be safely declared that because Chinese silk cocoons have been deteriorating on an average for some time, any expectancy that the Chinese silk industry is disappearing, or will disappear, is a mistake. The silk business of the world is hardly in a position to do without one-third of its raw material supplies, hence pressure abroad will probably force the reform which the Chinese have been slow to make, but which, sooner or later, must come. At present raw material supplies must come from the cheap labor countries of the Far East—from China and Japan. For American manufacturers also it is to be considered that Japan is soon to be, if it is not already such, a competitor in the manufacture of those silk products which have heretofore been regarded as the peculiar product of American and European looms. In Japan the silk business is commencing to change from an enterprise in which silk is produced from the mulberry tree and silkworm and incidentally manufactured into goods to an enterprise where raw materials from abroad are manufactured to suit the world's markets. The importations of raw-silk products from China into Japan is increasing yearly, and with the passing of the war in which Japan is now engaged it will increase far more, marking what probably is a permanent change in the silk industry of Japan. This is to be the case not only because Japan is becoming more and more a manufacturing nation, but also because Chinese raw silk is by nature better than Japanese raw silk and can be produced more cheaply.

It need not be expected that there will be much, if any, change for the better in the silk situation of China until that change comes through action or demand from abroad. There are several reasons for this, one of them being a lack of large amounts of ready capital and the unwillingness of Chinese people with sufficient capital to invest it at the present time. Another reason is that while there are millions of people in China more or less well versed in the production of silk upon the present basis, there are very few who understand marketing their product, and these few are generally the middlemen, who are now making most of the money in the business. Probably the strongest deterrent factor, however, is the ever baneful influence of monetary exchange, both international and that among the provinces and the several districts. The former two unfavorable elements could and would be eliminated by foreigners doing business in China in behalf of foreign silk industries, and apparently there is no reason why much of the trouble from exchange could not be eliminated by a concern which is in business both in China and abroad.

The Chinese themselves are paying considerable attention to the situation, and probably will invest more money in modern plants than they have ever invested before. One indication of this is in the increase of the number of factories for drying cocoons. If the price of silk continues as at present, if the silkworms are cared for, and if improved apparatus is imported, Chinese silk will supplant all foreign raw silk, including Japanese, in the world's markets. It is significant

that notwithstanding the fact that the price of silk has risen about 30 per cent in the past few years and apparatus for drying, steaming, and every other process has been greatly improved, the condition of Japanese factories is reported to be worse year by year. In Japan this is attributed to two causes: (1) Too many factories in proportion to the amount of cocoons produced, thus raising the price of materials by increased demand; (2) general rise in the cost of labor and everything, largely increasing the cost of production. The fact is that raw silk can be produced more cheaply elsewhere than in Japan, and the Japanese tariff is keeping out much of this material that the factories need. Already Chinese silk is finding its way into Japan, however, and the amount will increase as the price of Japanese silk for home consumption advances and as Japanese silk manufacturers continue to go abroad for raw materials. The importation of wild cocoon silk by Japan during the past three years may be regarded as a sign of the coming tide. There is now among Japanese manufacturers a growing appreciation of the importance of possessing factories in China for the purpose of controlling the business. If this is true of Japanese manufacturers it certainly behooves American silk manufacturers to take action in the same direction.

The silk production of China does not depend upon conditions and rules obtaining in other countries. Economically, China is making many and grievous mistakes in its silk-production methods; but for all that, it can and does produce silk more cheaply and more extensively, counting its home consumption, than any other nation by the sheer force of its position. Its favorable climate and its cheap labor make it possible for China to continue in the silk field, when by every law of modern business its ancient methods and continued bad management ought to have thrown it out of the struggle long ago. If China can continue to grow silk with bad management and without modern scientific aids, the world surely can appreciate the fact that with the improved methods which are certain to come, even if they come slowly—which are already being employed in some places, indeed—will come such a volume of raw silk products as will give a new and permanent turn to the silk business of the world. America and Europe will continue to lead in the beauty and variety of their silk manufactures, but Asia will grow their raw materials.

CHINESE ABILITY TO PRODUCE SILK.

The present drift of the Chinese silk trade is unquestionably in the direction of a decline in the exportation of Chinese silk cloth and an increase in the exportation of raw and waste silks. While the exports of silk from China last year show somewhat of a variation from the general movement, all silk men seem to be ready to admit that there is this general movement and the reasons therefor are not far to seek. In the first place, China can not make the silk goods as cheaply as it once made them. No one seems to know exactly what Chinese silk goods cost. The silk guild of China has long been accustomed to sell goods for what the world would pay provided there was a profit. The cost price was simply what the guild has been willing to allow, the living price of Chinese labor being the only fixed factor in the cost. But foreign buying of cocoons and raw silk and foreign competition in the manufacture of silk goods have caused a change. The

price of raw silk in China, even to the silk guild, has increased to a point where it is a serious problem for the Chinese silk men to make a reasonable profit and meet competition abroad.

Chinese manufacturers cling to old methods, and at the present time the quality of the raw silk produced averages poorer than it did before the Chinese silkworms were attacked by diseases. In the second place, the silk men of America and Europe understand the world's markets better than do the Chinese and they manufacture to meet those markets. On the other hand, the need of raw materials is becoming more and more acute in silk manufacturing centers, and the silk interests are not only reaching out for raw materials from sources they have heretofore drawn upon but little, but they are also employing as raw material waste products which they have heretofore neglected, probably to their loss. There is abundant evidence that China, even at the present time, can produce raw silk, raw silk waste, and similar materials cheaper than any other nation. If this assumption holds good it naturally follows that the United States and other silk manufacturing nations will come to China for these raw materials. These materials will consist of the raw silk, prepared cocoons, and waste of several varieties and grades.

RAW SILK A STANDARD COMMODITY.

Raw silk is as much a standard in the silk markets of the world as any staple article. Prices in the several silk markets will therefore follow each other very closely, and whatever differences there may be between the prices of the different markets will represent little more than the cost of transportation and interest on money invested in transferring silk from one market to the other. Possibly in the course of time this will be true of the prepared cocoon market and the market for waste silks, but it is not true of them at the present time, especially if the market for cocoons and waste in the silk-producing centers of China—in the interior where the goods are purchased of the producers and not in Shanghai, where they are bought of the middlemen—be the ones regarded. The United States and other nations will use more and more raw silk from China as the demand for manufactured silk increases, and this use will follow as a matter of course with no particular advantage to any one in the matter of price as fixed by the markets of the world. But in the matters of cocoons and especially in the line of waste silks there is likely to be great advantage to some silk manufacturers, and I am convinced that the silk manufacturers of that nation which first pays attention to the peculiar conditions obtaining in the cocoon and waste-silk trade of China will be the ones who will have this advantage in the silk world of the immediate future.

PRICES FOR COCOONS.

The first point to be regarded in the cocoon line is that there should be the elimination of the profits of a number of middlemen in the purchase of raw cocoons, and where the drying is done by men on the spot, as will soon be the case in the better silk districts of China, in the dry cocoons between the producing district and the world's markets. Prices paid for raw cocoons and even for dried cocoons in the several districts of China vary in a manner which would seem remarkable to

silk men of any other country, but they are explained very easily in China by the difference in monetary exchange between points, by the lack of proper communication and transportation, and by the operations of the silk guild. All these factors in the situation will operate for some time to come.

AMERICANS SHOULD BE REPRESENTED.

It is true that some of the larger firms which have tried the purchase of raw cocoons in the interior and curing them for the market report that there is little or no profit in the business. There is no reason why this should be the case, and there are abundant reasons why it should not be true. One thing is certain, however, and this is that such a business can not be managed by foreigners in Shanghai in the manner of a conservative coal or shipping business built up in the days when there was little or no competition. The exercise of the same energy and foresight which are required in American business circles generally will certainly have direct and tangible results here. It is practicable, and I believe it would be very profitable, for every American silk manufacturer to have a personal Chinese representative in the Chinese field. The difference in the figures paid for raw cocoons and those obtained for the cured product or for raw silk is far more than enough to represent the proper cost of the process. The American firm, therefore, which is able to make arrangements for direct representation in the Chinese cocoon field is likely to do business in a way which, while it will not be revolutionary, will certainly be satisfactory.

METHODS OF PURCHASE.

Last year the price of Shao-hsin dry cocoons in the Shanghai market averaged $118 per 1,025 pounds. A Japanese expert estimates that they can be purchased and dried on the spot for about $96.10 per 1,025 pounds, including commission, drying expenses, inland taxes, freight, packing charges, and other expenses to Shanghai. The margin of profit is great enough to be attractive, but it is plain that there will be little or no profit unless the goods are bought from the natives in the interior directly, and this is possible only by personal representation. It involves trouble, expense, and care, the proper selection of buying districts, and choice of employees, especially scale men and inspectors. Good employees are very difficult to secure. Silk factories in Shanghai send their clerks and members to the districts; sometimes proprietors go in person. Such are the many factories which secure goods at comparatively cheap prices. In spite of the drawbacks, however, personal buying of goods is practicable, and I believe would be very profitable. The purchase of cocoon silk in the field, however, is likely to be more profitable in subsequent use of waste-silk products to be obtained by direct purchase from the grower than otherwise. There are a number of lines of work.

MACHINE AND HAND MADE SILK.

One line which demonstrates that there is a profit between the cost of the cocoons and the price paid for good filature silk is in the existence of the rereeling business. The export of the "hand-reeled silk"

from China is far greater than that of the "machine-reeled." All Chinese hand-reeled silks are not of inferior quality, although generally so regarded. Some of them, as the Chin Chi Lin, Huchow-Chi-li-ssu, and Chin Shih Tze, are of very good quality, and when these varieties are rereeled they appear as fine as machine-spun silks, and often are sold as such. The difference in the price of machine-made silk and the hand-made silk is considerably greater than the cost of rereeling, with due allowance for waste. This phase of the business is likely to be very important in the rearrangement of silk matters soon to be realized. But it is to waste silk and dried cocoons that American manufacturers need to give the most attention. The variation in exports of waste silk products from China during the past five years indicates that while foreign silk men were unwilling to go into the importation of such products very extensively at present, they are giving the matter some attention. As a matter of fact, the variation has been due more to the course of Japanese manufacturers than to anything else. America has given the subject of waste silk very little attention apparently, and Europe has not gone into it as extensively as it probably will in the near future. The experience Japan has had with the Chinese waste silk is significant. Japanese waste silk has been used profitably for years. In fact, it became so profitable that it was used in an illegitimate manner, to the loss of foreign silk men dealing in Japanese goods. The result, as shown by official investigation, was that this not only alarmed the foreign manufacturers and merchants, but it also injured the Japanese factories. Even some of the traders in Kobé declined to do business in waste silk manufactures because of the risks involved. The importation of wild silk into Japan gave more difficulties to the Japanese manufacturers and they were obliged to decrease their output temporarily. This failed to give any relief, owing to the rise of price for the raw materials, and they have again begun to import the waste silk from China.

GREAT FUTURE FOR AMERICAN TRADE.

I am convinced that there is a great future for American trade in Chinese waste silk, but if this is to be the case there must be an immediate change in the methods of securing supplies. The Shanghai market, which has been the source of foreign supplies of waste silk, is not a reflector of real Chinese prices or conditions. The true condition of the waste goods business in China can not be realized unless the foreign buyer goes to the interior of the country. In Shanghai, the silk center of China, prices vary little from prices abroad, the silk guild maintaining the local equilibrium. This is the chief reason why waste silk is not more generally exported. Before the goods come to the hands of the Shanghai merchant they pass through the hands of several native brokers. It is the middlemen's profits which must go. Between the prices to buyers and those paid the producers there is a very wide margin. For instance, between the price in Hangchau and that in Shanghai there is a difference of practically 40 per cent at least all the time. It follows that if the buyer could buy from the producers directly or from native brokers in the interior, he could secure the goods 40 per cent lower than the Shanghai price. A number of Japanese silk interests have already inaugurated this plan of direct buying.

VARIETIES AND STANDARDS.

There are many varieties and standards of waste silk which American silk men can study with profit, but the chief varieties are: "Sheng-pi-ma" (when a Chinese silk spinner starts his reel he rolls the thread around his hand until the main thread of the cocoon is secured, and the part wound is called by this name), "chu-ko" (cocoons not fully developed by the worms), "waste thread" (produced in rereeling, and the quality very good), "feather," "kuai-pen" (the covers of cocoons), and floss silk.

Among these "sheng-pi-ma" is a most promising waste. The "chu-ko" is pressed and used as a material for floss silks. "Feather" is mixed with "silkworm's garment" and bad cocoons, and bleached in pure water after being well boiled, and is used as a material for rough silk cloth by native women. Until quite recently there was no use for the "sheng-pi-ma," except to plaster lacquer or to mix in mud and plaster for walls. Until a few years ago, when they were first exported to foreign countries, their value was unknown in the interior. As cocoon killing and drying have not generally obtained in China, it is the custom with the Chinese producers to begin the reeling as soon as they finish the "breeding." They immediately sell the goods to the middlemen who are waiting to buy them. The season for "sheng-pi-ma" is very short in spite of its large production. Its abundance and the lack of local demand keep prices for this product very low. Last year, notwithstanding the price of silk went up to the highest it probably ever reached in the interior of China, the native brokers bought of the producers this "sheng-pi-ma" waste at 3 cents gold per 8⅓ pounds for the best quality, and less than 2 cents gold for the same quantity of the inferior quality. Next to "sheng-pi-ma," "chu-ko" and "feather" can probably be used abroad with profit.

JAPANESE STRONG BIDDERS.

Most of the double cocoon waste of China has been going to Japan. In Japan double cocoons are handled extensively in three prefectures—Gunma, Fukushima, and Aichi. Owing to the extent of the export trade of silk in recent years, and the rise in the price of "native-use silk," the Japanese weaving factories have been compelled to use considerable Chinese waste products and particularly double cocoon silk. The progress of the silk-making art and the development of apparatus make the quality of these goods better and better, and the Japanese silk expert reports that the best quality may be used as the material of export "habutai." Japanese factories are now generally strong bidders for double cocoons from China, and Japanese silk experts have been making a special investigation of the subject in China during the past year. The Japanese manufacturers are paying much attention to the Chinese double cocoons, not merely because of their cheapness, but also because they have a good color, are easily reeled, the joints are few, and the fiber is fine and very small, and thus suitable for fine silks, and at the same time it is not easily severed. In other words, they secure as much silk as easily from these double cocoons as they do from many grades of single cocoons and the silk is of better grade. The double cocoons heretofore exported were not bought from the producers directly, but from middlemen who secured

their raw material from the cocoon merchant in the interior. These merchants sort their goods, select the better grades, and sell the inferior ones. The inferior grades go into the hands of compradors and are again classified and sold for export. Thus the goods come to foreign manufacturers after passing through the hands of three or four persons. Last year the price of native double cocoon in the interior was about 46 cents gold per 45 pounds. The quality of the Chinese ta-ssu (rough silk) used by native weavers is inferior to double-cocoon silk made by improved processes.

ADVICE FOR AMERICANS.

American silk men probably will take up with few, if any, of these promising branches of the silk business in China, although there is promise of profit in all of them. It is both practical and advisable, however, that they do something in the line of securing their raw materials from this future raw-silk and waste-silk center of the world by buying more directly from the producer and cutting out useless middle profits.

METHODS AND ESTIMATES OF COST.

While the silk manufacturing interests of the United States are giving attention to Chinese raw silks and the possibility of more direct dealing with the Chinese producer, they are naturally seeking information as to the present situation of silk factories in China, the profit and loss account of such establishments, what they accomplish, and what improvements in them can be readily made. Chinese silk factories at the present time are in a process of transition. They are commencing to break with their ancient processes and to adopt more modern machines and methods, although the changes so far made are inconsequential. Naturally, figures given as to their production are likely to be misleading, since with more modern and more effective machines such production may be increased. It is probable, also, that figures as to labor, cost of production, and similar expenditures will give little real idea of the situation unless all the circumstances are explained. Weights and measures vary so much and in so inexplicable a manner that values are always mistrusted unless the exact nature of the measuring medium is known. Each locality has its own tael or ounce of silver, its value of the Mexican dollar, and its value of the copper cash. A pound in buying is generally different from a pound in selling, and varies in both respects in the several districts. In China there is no absolute standard of measuring anything anywhere. With these facts in mind, I have endeavored to secure figures relating to the silk-making industry of China which have to do with certain definite conditions, and which, at the same time, represent the ideas of progressive silk men.

A TYPICAL SILK FACTORY.

The most representative silk factory in the North China silk field in some respects, aside from the foreign elements in Shanghai, is the Shih Ching Silk Factory of Hangchau. Hangchau is located in almost the center of the greatest silk district in China, all things considered; and naturally its most important silk factory is representative in many

respects. The Shih Ching establishment is located convenient to raw materials, to transportation for its supplies and for its product, and in such a district that there is little likelihood of interference with its work, either from a lack of materials or lack of labor. The factory is built on the Grand or Imperial Canal near the foreign settlement. It was built about nine years ago, and operated for a time, but for six years, previous to last year, it was shut down. It was operated for eight months last year.

The factory is a two-story Chinese building, built of brick with tile roof in Chinese style, in a compound which includes about 24,000 square feet. The factory includes 272 basins, all on the second floor of the principal building called the reeling department. The building is divided into a manager's office, a room for storing dried cocoons, and a cocoon sorting room. The buildings, when the factory was not operating, rented for $92 gold per month. The reeling department building is of brick, two stories, and well built. Its length is 198 feet, width 66 feet. The machinery is of the European Kenner style, well made. There are 272 basins, all well appointed. The engine room is well constructed, one story in height, length 90 feet, width 42 feet. Two engines are arranged parallel to each other. They are of Lancashire style and in good order. Such engines are seldom seen in factories in the Far East. A repair room and firemen's living rooms are in the power building. The filters are arranged in the east of the engine room, facing the Grand Canal. Water is led from the canal to the water tubs through iron piping. There are three water tubs, and the filtering is of the simple but fairly effective sort. The drying room is constructed like those of most native factories, of light walls and poor floors. It contains 20 ovens and occupies 942 square feet. These ovens are not sufficient to dry all raw cocoons the factory requires, but are sufficient for redrying cocoons bought from the surrounding territory. The factory represents an original outlay of perhaps $70,000 gold, the capital of the original company being about $92,000 gold.

ESTIMATE OF A JAPANESE EXPERT.

Taking this factory as above described, a Japanese silk expert, who was formerly the head of the Sericulture College at Hangchau and who has made a thorough investigation of the silk business of China, has prepared an estimate for Japanese capitalists proposing to purchase and operate this factory. This estimate, he explains, is based upon maximum charges and minimum earnings that "certainty of profits may be assured." The estimate of profits he makes is decidedly interesting, and, as reflecting actual prices and conditions in the silk trade of China as they are or may be affected by modern scientific work like that being done in Japan, his figures are valuable to the silk interests of the United States. It is probable, as this expert believes, that several estimated charges can be reduced, as, for instance, the item of salaries for clerks and workmen. The expenses for repairs, bonus, postage, entertainment, traveling, etc., have been calculated according to the Chinese manufacturers' expenditures; ordinary business methods will probably require less. Inland likin duties on dried cocoons may be greatly reduced in a manner peculiar to the Chinese tax system. Interest has been estimated at the rate of 10 per cent per annum, but with good security plenty of money can be had for 7 per cent or less. This estimate included the following balance sheet:

BALANCE SHEET.

Figures given in this and the following tables in this estimate represent the original Mexican dollars converted into gold, and the totals are the Mexican totals thus converted. While they may vary somewhat because of the elimination of fractions, they are to be relied upon.

Estimated balance sheet of Shih Ching Silk Factory.

Items.	Value in gold.
RECEIPTS.	
41,620 pounds of silk	$172,439.28
Waste cocoons	7,057.95
Waste silk	6,322.88
	185,810.11
Capital (ground, buildings, and apparatus)	36,800.00
Total	222,610.11
EXPENDITURES.	
Ground and buildings (immovables)	32,200.00
Apparatus repaired or added (immovables)	4,600.00
Value of 573,674 pounds of cocoons (movables)	121,417.92
All manufacturing charges for 41,620 pounds of silk	42,653.77
Total	200,871.69
Net profit	21,738.42

ESTIMATE IN DETAIL.

This balance sheet is supported by the following table:

Estimated cost of production of 41,620 pounds of raw silk at Shih Ching Silk Factory.

Items.	Value in gold.
FACTORY EXPENSES.	
Salaries of clerks, directors, etc	$2,660.64
Salaries of workmen	2,152.80
Wages of laborers (girls)	9,861.48
Food and provisions	883.20
Charcoal and firewood	3,632.85
Damages and wear	287.04
Covers for packages	229.63
Packing charges	229.63
Repairs	430.00
Bonus	230.00
Postage, etc	82.80
Entertainment, etc	276.00
Traveling expenses	143.52
Employment of laborers	92.00
Petty expenses	460.00
Total	21,652.59
MATERIALS, ETC.	
Cocoons for materials	7,419.89
Expenses, etc., buying materials	8,094.52
Expenses selling goods	717.60
Transportation and duties	344.44
Insurance	306.12
Landing fees, Shanghai	71.76
Interest	4,047.26
Total	21,001.59
Grand total	42,653.18

An explanation of the items in the foregoing estimate gives an idea of the actual state of the silk business in China which would be difficult to secure in any other manner. The items (values in gold) are taken up seriatim, as follows: Factory, with ground, etc., $32,200; apparatus repaired or added (repairs of filters, etc., $2,300; expenditure for opening business, $2,300), $4,600; total value of immovable property, $36,800.

Raw cocoons 573,674 pounds..... $121,417.92

This estimate is based upon the calculation, supported by the experience of Chinese manufacturers, that the factory can manufacture 1,025 pounds of silk from 14,135 pounds of raw cocoons. With 208 basins at work for three hundred days in the year and each basin producing 0.667 pound per day, the total product for the year would be 41,620 pounds, for which the raw materials at the above ratio will amount to 573,674 pounds. One hundred pounds of dry cocoons equal 300 pounds of raw cocoons, so that the material required will be 191,225 pounds of dried cocoons. Chinese cocoon buyers classify cocoons when buying them according to the amount of raw silk they will produce. Improved methods, however, enable a factory to get more silk out of a cocoon than Chinese methods. Instead of 4,717 pounds of dried cocoons (14,135 pounds of raw cocoons) producing 1,025 pounds of silk, it is probable that 4,089 pounds of dried cocoons or 12,267 pounds of raw cocoons will produce this quantity.

Expenses for dried cocoons, packing and freight $7,419.89
Inland taxes ($12 Mexican or $5 gold per 133 pounds) 8,094.52

This estimate is made on the assumption that there are branch factories for "drying" cocoons at points within twenty-four hours' journey by boat from the head office under the management of men from the head office. The cocoons are to be dried and packed there and sent to the head factory. The allowance includes commissions, drying charges, packing expenses, freight, all taxes, and other charges. The rate is $23 Mexican per picul, or $10.58 per 133 pounds.

Pay of directors, clerks, etc., in Shih Ching Silk Factory $2,660.64

This is divided as follows:

Directors, clerks, etc.	Per year.	Per month.
1 president (Japanese)	$276.00	$23.00
1 manager (Japanese)	552.00	46.00
1 cashier (Japanese)	276.00	23.00
1 clerk (Japanese)	298.08	13.80
2 clerks (Chinese)		a 5.52
1 chief engineer (Japanese)	441.60	36.80
4 interpreters (Chinese)	441.60	a 9.20
5 boys (Chinese)	165.60	2.76
2 watchmen (Chinese)	66.24	2.76
3 cooks (Chinese)	143.52	4.60
		3.68
Total	2,660.64	.....

a Each.

Wages for workmen, etc $2,152.80

The monthly wages of workmen, etc., are as follows:

Class of workers.	Wages.
2 women instructors (Japanese), each	$9.20
1 cocoon godown keeper (Chinese)	5.52
1 overseer for selecting cocoons (Chinese)	5.52
2 inspectors (Chinese), each	5.52
1 engineer (Japanese)	23.00
13 workmen (Chinese), each	3.68
4 overseers (Chinese), each	6.80
1 clerk in working room (Chinese)	4.60
1 overseer for weighing (Chinese)	3.68
1 examiner (Chinese)	9.20
2 firemen (Chinese), each	4.60
5 coolies (Chinese), each	2.76

Wages for female laborers $9,861.48

The daily wages of female laborers are as follows:

Class of workers.	Cents.
208 women for reeling	9.2
104 women for same work	6.9
50 for making floss silk	5.06
10 for waste silk	5.52
10 reserved laborers	9.2
3 lady examiners ($4.14 per month)	.....
30 for packing ($4.14 per month)	.....
20 for selecting cocoons	7.82

The miscellaneous expenses of the factory are as follows:

Expenses for—	Per annum.
Boarding charges for 32 clerks, $2.30 each per month	$883.20
Coals, 900 tons, at $4.02 gold per ton	3,618.00
Damages, wear, etc., at 92 cents per 1,025 pounds silk	287.04
Cocoon packing	229.63
Packing charges	229.63
Repairs, $3 per 1,025 pounds	430.56
Bonus, $1.60 per 1,025 pounds	230.00
Correspondence charges, 57 cents per 1,025 pounds	82.80
Entertainment, etc., $1.92 per 1,025 pounds	276.00
Traveling expenses, $1 per 1,025 pounds	143.52
Employment of labor, 64 cents per 1,025 pounds	92.00
Petty charges, $3.20 per 1,025 pounds	460.00
Expenses for selling goods, $5 per 1,025 pounds	717.60
Freight and duties, $2.40 per 1,025 pounds	344.45
Insurance, $2.13 per 1,025 pounds	306.12
Landing fees at Shanghai, 50 cents per 1,025 pounds	71.76
Interest, 10 per cent per annum	4,045.26

The last item is one-half years's interest on $81,945.28 gold, or two-thirds of $121,417.92 gold, the capital for buying cocoons.

Details of the estimate of income follow:

Sale of silk $172,439.28

This estimate is based upon the assumption that the year's total production of silk is 312.2 piculs, or 41,616 pounds. Of this it is calculated that 60 per cent will be first quality, that 187.2 piculs (133 pounds each) at $550 gold per picul; 30 per cent is ordinary silk, i. e.,

98.6 piculs (133 pounds each) at $538.16 gold per 133 pounds; 10 per cent is inferior silk, i. e., 31.2 piculs at $522.02 per 133 pounds.

Sale of double cocoons $5,919.66

It is estimated that 10 per cent of the dried cocoons purchased are double cocoons. Thus it amounts to 146.64 piculs, selling at about $40.50 per picul of 133 pounds.

Sale of bad cocoons $1,138.29

This item includes those thinly crusted, those having holes, and which are spoiled, etc. It is estimated that 5 per cent of the total of dried cocoons, or 73.32 piculs, will be spoiled. These probably can be sold at $15.48 per picul of 133 pounds.

Coarse silk (reeled from the outside of the cocoon) $5,037.55

Coarse silk is estimated at 20 per cent of the raw silk, or 62.4 piculs. It will probably bring $79.50 per 133 pounds.

Waste cocoons $87.19

Waste cocoons are calculated to be 3 per cent of raw silk, or 9.36 piculs. The price is estimated at $9.30 per 133 pounds.

Sale of Deneel silk, $361.67; sale of silkworms, dead, used for manure, $330.67; sale of cover of cocoons, $505.80; total receipts, $185.810.11.

It is further explained that "to be sure of the profit" this expert calculated the outlays at maximum amounts. For cocoons, representing the greatest outlay, the highest price ever reached is allowed. The price of raw silk last spring was about $608 per 133 pounds, while the estimate is based upon $548 per 133 pounds.

The amount of capital used for buying cocoons is returned immediately when the silk is sold. It is the usage of Japanese manufacturers to incur a temporary loan for buying cocoons and to estimate a half year's interest for it. Probably so much of an outlay would not be required.

It is not necessary for American silk men to give full faith and credit to all these figures to secure a considerable insight into the silk business in China, especially as such business is likely to be managed in the near future. Whether Americans will care to invest directly in Chinese silk enterprises or not it is probable that they can appreciate the situation here and can see wherein their interests lie. There is no doubt that the closer the American manufacturer gets to the Chinese producer, the better off both will be. That the silk business in China is at the beginning of a change all silk men admit. The improvement in the average cocoon—the increase in the proportion of fine cocoons—will be the first result of this change, and the change will work directly and primarily to the advantage of those who deal in and work with cocoons. Whether or not American capital is represented in Chinese raw silk establishments, American silk men ought to be able to advance their interests in this connection.

OUTLOOK FOR THE COMING SEASON.

Silk authorities in the Chinese market are disposed to look for a good crop of silk this year in spite of the unfavorable spring. The reviews of the season which has just closed, however, which are now

being issued by the silk houses of China and Japan, do not speak favorably of the season in question, as far as China is concerned, evidently blaming the Chinese dealers and producers for comparatively poor grades of silk, and especially for high prices for good grades of silk. One trade review, issued by a Shanghai house, says of the season of 1903–4:

"The crop proved to be slightly less than that of 1903–4, there being a falling off in white, yellow, and wild, and a slight increase in steam filatures. There was a considerable stock of cocoons carried over from the preceding season, and upon this severe losses must have been made. Owners of steam filatures appear to enjoy a larger measure of cheerfulness than is vouchsafed to the ordinary mortal, or else there must be a peculiar fascination in the actual purchasing of cocoons, as, despite the enormous losses incurred in 1903–4 and the prospects in the market in May last year being anything but encouraging, they went ahead and gayly bought cocoons in Shaoshing and Woosie, the average cost of which meant 760 taels at least for steam filatures 1, 2, and 3 ($456 per picul, or about $3.40 per pound). The result of the season's operations is that several filatures are shut down, and some have reduced their capacity. The quality of a large proportion of this season's shipment leaves a great deal to be desired. A very important fact has been the greatly increased export from Japan. The rapid growth of the silk industry of that country should serve as an example to the Chinese of what can be accomplished by the adoption of scientific methods of sericulture, but the Chinese adhere to old custom, and seem content to leave matters entirely to chance."

One peculiar feature which is not touched upon by this report is the fact that the exports to Japan of raw and especially waste silks from China indicate the possibilities of the Chinese silk market when it is properly worked by men who are willing to use Chinese waste at present prices.

The last silk season was marked by very great fluctuations in the prices of goods which are taken as staple to the business. Gold killing, for instance, varied from 525 to 575 taels during the season ($315 to $345 gold per picul of 133 pounds). Yellow silks suffered a marked decline during the year and the business in hand filatures was less than in years previous, one reason being that some hand filature goods are being worked over into goods known as "filature products."

THE PRESENT SITUATION.

The silk situation in China at the present time presents the rather peculiar phase of having the steam-filature silk handlers bearish while the Chinese middlemen are decidedly bullish in their tendencies. The market this year has opened up with strong demand for Shao Hing cocoons at prices which will make 1, 2, and 3 filature silk worth $456 a picul (133 pounds). There is no question but that all silk men regard this price as too high as compared with the price for waste silks and other cocoons, but at present the demand seems to be so strong for the high-grade cocoons that such prices will be more or less firmly maintained. The most significant feature about this for the Chinese is the fact that the cocoons thus so eagerly sought are the only ones in China produced scientifically. It is a notable fact, too, that in spite of the very high price for the high-grade cocoons last year the market

for waste silk generally was depressed, although the total export last year was about up to the average for a number of years. Considerable stock of wastes is said to be held over for the current season, contrary to the rule heretofore.

During last season the United States imported from China a grand total of 2,280,000 pounds of silk, as compared with 1,750,400 pounds in 1903–4, 2,116,000 pounds in 1902–3, and 2,617,700 in 1901–2. In waste silk America took less than during the previous year, but more than in any year previous thereto.

SILK PRODUCTION IN CHEKIANG.

In a report from Hangchau, forwarded by me in December, 1904, attention was called to the state of the silk industry in China, and the possibility of its indefinite development not only by the Chinese, but by foreigners. A review of the silk production of the province of Chekiang, the center of the silk trade of central China, has firmly convinced me that the possibilities of profitable trade in some lines of the industry, and especially in waste and raw silks, are not at all realized by foreigners interested in silk, particularly the silk producers and manufacturers of the United States. So far this year, however, there has been a greater movement of raw silks to the United States than usual, and possibly this indicates a more thorough realization of their value. There is no doubt that the production by China of silks of all classes will be increased immensely, for the demand continues to grow. While millions of people are already concerned, and some of the most productive districts of the Empire are devoted to silk cultivation, the slightest improvement in the financial return to the producer will result in a very short time in an immense increase in the amount of silk grown. Moreover, it is equally plain from the figures paid in the producing districts, and even in the distributing centers like Shanghai, that there can be a material increase in the price paid for raw silks and yet the price will be below the cost of production in most other countries.

The silk-producing industry of Chekiang Province (which I investigated while consul at Hangchau) is such as to convince me that the silk men of the United States are not securing from the Chinese field all the benefits they should secure. I submit herewith a review, by districts, of the silk production of this province in central China, secured by observation and from a confidential report by a Japanese silk expert who investigated the situation in the province with a view to investments on the part of Japanese interests he represented.

The province of Chekiang is a great and prosperous division of the Empire lying about midway on a north and south line, bounded by the Tung-hai or eastern sea on the east, and by the rich and prosperous provinces of Kiangsu, Kiangsi, and Anhui. The area of Chekiang is about 98,700 square miles. Its climate is warm and moist, very well suited to the growth of vegetation, and especially favorable to the mulberry tree. The soil is unusually fertile for China. Chekiang produces cotton, rice, tobacco, and spirits, and has been famous for many years as one of the greatest silk-producing districts of the world. It furnishes the imperial silks for the use of the Chinese imperial court, and as far back as Marco Polo's day Hangchau was noted for its silk products. Vast fields of mulberry trees, as fields in China go, are to

be seen over nearly all of the more tillable land, and the dominance of the silk industry is apparent to the most casual visitor. The province is divided into 11 "fus" or prefectures, 76 "hsiens" or districts, and 2 "chaus" or independent departments. Silk is produced over most of the province, but varies greatly both in quantity and quality.

Commencing at the north, Huchau Prefecture lies about 45 miles by water communication from the capital, Hangchau. In some respects this is the most flourishing part of the province, so far as the production of raw silk and mulberry trees is concerned. Huchau has been famous for its silks for many centuries, its crêpe holding a high place in the world's markets for a long time. The total production of silk in the prefecture is said to be about 1,600,000 pounds annually; its quality is excellent, with a good color, very few knuckles, and its thickness is remarkably uniform. Naturally such a product is held in high esteem by the weavers of the province and by silk men generally. The only defect is that inasmuch as the reeling methods are crude the strands are often severed. The threads, also, are unusually sticky, and this detracts from the market value of the product, especially for export. This has led to the industry of the so-called "rereelers." The silk is reeled a second time on a simple machine by cheap labor. The silk thus gone over is exported as ordinary filature silk under the name of "yan chuang ssu," with a fixed trade-mark. Among the best-known brands are "Golden Giraffe," "Huchau," and "Golden Lion." These are esteemed the "extra" grades of the native Chinese product. This district is also famous for its floss silk, a waste silk produced by rereeling, and feather silk. The process of drying cocoons does not prevail. As soon as the thousands of silk growers scattered over the district finish the culture of the silkworms they begin reeling from the cocoons and immediately dispose of the reeled silk to the buyers. This is done chiefly because the average silk grower has not enough capital to live on and hold his crop until it can be disposed of to the best advantage. The first result is a short buying season and the throwing of large quantities of silk of all kinds, especially waste silk, upon the market at once. For waste silk Huchau may be regarded as one of the most promising fields for the investigation of foreigners. The prefecture is divided into seven districts, among which Niao-cheng, Kui-an, Chang-shin, and To-ching are well-known silk centers.

Kashing Prefecture is in the northeastern part of the province, adjoining Huchau, the city of Kashing being 71 miles from Hangchau. The district is far below Huchau in commercial importance, but silkworms are cultivated everywhere, and the district ranks next to Huchau in the raw-silk industry. Considerable silk is exported with the trade-mark of Huchau, "yan chuang ssu." Waste silk is also produced abundantly. The drying of cocoons is not carried on to any great extent, but there are two or three important silk concerns in the district, and the business in raw cocoons is large and growing. The district has a promising future. The soil generally is very fertile and agriculture flourishes, the exports including cotton, raw silk, and tobacco. The prefecture is divided into seven districts, among which Tsui district, Kashing, Samên, Pin-huh, and Tanchiang are the most prosperous. Samên is famous for its mulberry seeds and Pin-huh is a noted silk center.

Hangchau, the capital of Chekiang Province, famous in Chinese history and one of China's most important cities, is perhaps best known for its silk "piece goods" or silk cloth, raw silk, and silkworm eggs. It may be said to be the center of the silk piece-goods trade in middle and north China, as Kioto is in Japan. The prefecture includes the Yu-hang district, noted from ancient times for its silkworm eggs. The district produces about 500,000 sheets of the eggs annually and supplies more than half the province, but the quality of the eggs is not so good as it was a quarter of a century ago. Many diseased worms are found, and at present the varieties of worms grown are inferior. The district also produces silk, but the quality is not what it ought to be, both the silk and the worms' eggs demonstrating the need of modern methods. The total production of silk in the district is about 133,300 pounds annually, mostly consumed in the manufacture of native cloth or piece goods. The silk handled by the merchants in Hangchau is chiefly from this district, but at present its exportation is rather limited. The production of chin-ko, sheng-pi-chu, feather, and bamboo silks is fairly large, but the quality is inferior. Chin-ko is produced only in this place. It is sold in Shanghai, the price ranging from 3½ to 5 cents gold per pound. Considerable cocoon drying is going on. There are four establishments for this work in the district. The total trade in dry cocoons in the district amounts to about 400,000 pounds annually. Last spring the average price for raw cocoons was about 2½ cents gold per pound, while in Shanghai the average price of dried cocoons was about 60 cents gold per pound. The quality of these goods was rather questionable, for it required about 550 pounds of the cocoons to produce 100 pounds of raw silk.

The independent department of Hai-ning is situated at the mouth of the Chien-tang River, about 35 miles from Hangchau by water, and adjoining Kashing prefecture. The district exports a brand of silk known as hsi-ssu. Some of its silk is rereeled and exported, but most of it is taken by the silk weavers of the district and of Hangchau and enjoys a good reputation. The highest price for the silk reached last season was $52 Mexican for 100 Chinese ounces, or about $3 gold per pound. The average price for the year was about $2.62 gold per pound. The production of sheng-pi-chu, luang-ssu, and floss silk is rather large, the floss silk being highly esteemed for its excellent quality. Hangchau prefecture is divided into eight districts and one independent department. Silk production is probably the principal industry of five out of the eight divisions, and if the industry can thrive anywhere it will do so in these districts, all of which lie north and west of the Chien-tang River, the river of the famous tidal bore. They probably include the greater part of the silk business of the province, especially raw silk, waste silk, silk piece goods, floss silk, and lun-ssu. With Hangchau as the center and aided by the splendid canal system, which reaches the remotest village in the province, the districts named may rapidly be developed in many lines of trade by the adoption of modern methods, and this is especially true of the silk trade.

Yet the best silk in the province and in some respects the best silk in China from a commercial standpoint is produced outside of this rich country. Shaoshing prefecture is situated south of the Chien-tang River, opposite Hangchau. At present it is producing a remarkably fine grade of silk, and it stands first of all the Empire in

the quality of its dried cocoons and in silkworm cultivation. The Shaoshing cocoons lead all quotations in Chinese export markets. This is owing to the fact that the silkworm growers of the prefecture have been giving scientific attention to their worms and their mulberry trees. Their experience is thoroughly illustrative of what can be accomplished in the rest of China by scientific methods. The prefecture is divided into eight districts, of which Hsin-Chang, Chang, and Chu-chi are especially famous for cocoon production. Hsin-Chang and Chang districts are about 125 miles distant from Hangchau by water. Poor transportation connection with Hangchau and Shanghai has made each of them a center of the dried cocoon trade. There are about eighty establishments in the two districts, and the total production of dried cocoons is said to be from 2,000,000 to 2,600,000 pounds annually. The cocoons are generally round or egg-shaped, and 100 pounds of raw silk will be reeled from 400 to 460 pounds of dried cocoons. The prices last year ran very high for China, 1 pound of raw cocoons running from 20 to 24 per cent raw silk, selling for about 3¼ cents gold per pound, while the dried cocoons were bringing from 81 to 85 cents gold per pound in Shanghai. Silkworm eggs are produced in this district in competition with the Yu-Hang district in Hangchau prefecture, and are superior to the latter. The total production is far smaller, but amounts to about 400,000 sheets annually. These worms will produce more silk at less expense than the egg production of the Hangchau district.

Chu-chi district adjoins Chang district, about 60 miles from Hangchau by water. From an early date this was regarded as the chief district for the production of rough silk (ta-ssu or tussah). The quality of its silk is unusually good. The dried cocoon trade is not so flourishing as in the other districts of this prefecture. Two years ago there were only two establishments in the district, but at present there are ten, and more are coming. The increase is due to the rapid rise in the price of raw silk. The cocoons of this district are round or egg-shaped, and the quality and quantity are very superior. The establishments for drying the cocoons are imperfect, and the prices received for their output are below what they ought to be. Last year prices were unusually high but the production of the district is said to have been sold at an average price of 3 cents gold per pound. As a rule, from 450 to 460 pounds of the dried cocoons will produce 100 pounds of raw silk. This district is looked upon as a rich field for the buying of cocoons for export. There are two large factories in the district having 208 basins each. One is in Hsiao-shan district and is called the I-ho-ssu-chang. The other is in Shan-Yu district and is called the Kai-Yen-Yei-chang. Both are flourishing. The soil of this vast prefecture is fertile. It is one of the richest districts of central China. Its chief products are cocoons and silk, silk cloth, spirits, rice, and tea.

The above-mentioned four prefectures are famous for their production of silk in its varied forms. Next to them come Ningpo, Kin-hwa, Wen-chau, and Tai-chau. Ningpo produces considerable silk, but can not be compared with the districts described. Wen-chau and Tai-chau produce little silk.

As a result of the investigation, which forms the basis for much of the information given in this report, arrangements are practically complete for the inauguration of a Japanese steam filature business at Hangchau, which contemplates covering practically all of the province

in its operations. There is a disposition among Japanese silk men to invest in Chinese silk industries, and especially to buy more and more raw silk products in the interior of China. This latter feature at the present time merits the attention of American silk men.

TRADE OPPORTUNITIES.

There seems to be fair opportunity for the introduction of certain classes of mill machinery in China as will be seen from the statements contained in Consul Anderson's letter given below:

There is something of an opportunity to introduce windmills and rice-hulling machinery in the vicinity of Amoy. It seems that a number of owners of extensive rice lands along the river between Amoy and Changchew, a large city in the interior, have visited the French possessions in South China and have there had ocular evidence of the benefits of improved and labor-saving machinery. They have seen wind pumps doing the work of the Chinese trough-and-paddle arrangement and have seen modern rice-hulling machinery doing the work of the patient Chinese cooly, who beats the hulls from rice by pounding it for hours at a time. These object lessons have had their logical result and there is talk among these men of purchasing wind pumps and hullers. I append the names and addresses of men to whom it may pay dealers to write:

Americans interested in introducing wind pumps and rice hullers in the Amoy district can probably best serve their interests by addressing Lim Chor Ghee, esq., care of C. G. Lim & Co., Amoy, China, and S. P. Yin, esq., care of S. P. Yin & Co., Amoy, China.

A SPLENDID OPPORTUNITY.

There is a splendid opportunity for the use of both wind pumps and hullers in this vicinity. The river banks, as is usual in rice country in China, have been raised artificially to protect the rice fields from floods and from salt water, and the fields are flooded in proper season with water lifted into them by the ancient Chinese foot-power water-carrier. These fields, and especially the high banks of the river, are exposed to the monsoons, the regular winds corresponding to the trade winds of the ocean, which blow from the northeast all winter and spring and from the southwest the rest of the year. There is always a steady power for wind pumps and such pumps would be an unusually great success here. A few demonstrations of their utility will be very valuable in further extension of trade.

ANTIQUATED METHODS.

The possibility of introducing rice hullers is altogether dependent upon the matter of cost. The present Chinese method of hulling rice is slow and, according to Chinese standards, very costly. A large mortar is hollowed out of granite or some hard stone; rice in the hull is placed in this and a cooly pounds it with a heavy wooden or stone maul padded so that it will not crush the grain or injure it any more than is necessary to loosen the rough natural covering. In larger rice establishments a large beam or pole is arranged to work on a pivot, so that when a cooly steps on one end of the beam the other end

is raised in the air, and when he releases it this lifted end falls in such a manner that its padded head strikes the grain in a large mortar below. Standing on a small platform by the side of this great maul or beam, and hanging to large rings in the ceiling, like the rings of a gymnasium, to preserve his balance, a cooly will pound rice all day long, week in and week out, the year around. The larger rice establishments will have as high as 50 of these contrivances at work at once, though perhaps a dozen would represent the average establishment. A cooly with one of these large beating contrivances will hull about 150 pounds of rice a day, the amount varying with the variety and condition of the grain.

FOREIGN TRADE IN AMOY.

Amoy is one of the old open ports in China, and trade in certain classes of foreign goods is well established. In line with general policy among both Chinese and foreigners in the trade of the Far East, most firms continue to buy their supplies from the same wholesale houses and the wholesale houses from the same manufacturers or jobbers with which they have been dealing since first their trade was established. At the same time considerable can be done by Americans interested in pushing new American goods as well as some of the older stable lines, and even correspondence may be successful in securing trade; although in this, as in other respects, it need not be expected that American trade will do what it ought to do until there is personal representation. Aside from what are known as commission houses in Amoy, most foreign firms and many Chinese firms do both a wholesale and a retail business. The commission houses sometimes have regular lines of goods which they dispose of to Chinese through their compradors, but more often are open to all sorts of propositions for the sale of goods to the Chinese dealers with whom they are constantly in touch.

The bulk of foreign goods for Amoy come by way of Hongkong, the distributing point for South China. Amoy itself is a distributing point for a number of large Chinese cities in this vicinity like Changchew and Chinchew, neither of which is an open port, i. e., a port in which foreigners can establish themselves in business, but are places that consume considerable foreign goods, like flour, kerosene, and medicines. These cities can only be reached through Amoy firms or, in exceptional cases, through Hongkong. For important lines of goods American manufacturers can secure local Chinese agents even in such places. American kerosene, for instance, may be sent to warehouses in such places as permitted in the treaty between China and the United States governing their commercial relations, and be there handled by Chinese agents.

DEALERS IN FOREIGN GOODS.

I append a list of dealers in foreign goods in Amoy who can be reached in English and by correspondence:

Dealers in groceries and provisions, tinned and bottled goods, drugs, medicines, and sundries, and in general merchandise: C. Whitfield & Co. (Limited), A. S. Watson & Co. (Limited), Siu Jin Tong, Siu Se Tong.

Dealers in groceries, tinned and bottled goods, toilet articles and notions, and general merchandise: Thomsen & Co. (Limited), N. Moalle & Co. (Limited), Yu Yoksang & Co., Ah Kow.

Drugs and dry goods (piece goods), tinned and bottled goods, glassware, etc., and general merchandise dealers: F. C. Brown & Co., Tong Cheong & Co.

Dealers in clocks, watches, and similar goods and minor scientific instruments: Seng E. Chai, Tan Siong Chee & Co.

Dealers in and builders of engines, steam launches, marine supplies, and similar goods: Amoy Engineering Co. (Limited), New Amoy Dock Co. (Limited), N. Moalle & Co.

Commission merchants, selling goods of many lines on commission: George H. Macy & Co., Butterfield & Swire, Jardine Matheson & Co., Boyd & Co., Pasedag & Co., N. Moalle & Co., Thomsen & Co., Tee Chit Gin & Sons, Ooy Giok Swi & Co., Malcampo & Co.

Importers of piece goods (cloths and dry goods): Ong Mah Chao & Co., Choa Tek Hee & Co.

POISONED FLOUR.

The trade in foreign flour from Amoy into the interior of China and in Amoy itself will disappear for some time to come if the evil effects of a most unfortunate occurrence can not be overcome at once. Somewhere between 30 and 40 people have died as the result of eating products of flour sent to Amoy in a certain shipment from Hongkong, and the natives in the interior as well as in Amoy have almost altogether ceased to use the product. All sorts of rumors have been spread broadcast and antiforeign agitation has received a great impetus. It will take earnest and active effort to overcome the effects. Naturally since the United States sends almost all the flour that is sold in this part of China the loss of trade falls most heavily upon American millers, and through no fault of theirs.

It seems that about a month ago a cargo of flour was received in Amoy from Hongkong, consigned to native importers. This flour was distributed in the ordinary course of business, apparently, and seemed to be no different from any other flour. The first trouble came at a Chinese restaurant. The proprietor made a native product, resembling maccaroni, for use in soup, and served it to a customer, who immediately sickened and died. The relatives of the unfortunate man appeared and claimed that he had been poisoned, there being every appearance of morphia poisoning. The proprietor denied that there was any poison in the food. "This is my business; why should I ruin it by poisoning a customer? I will eat the food myself," was his defense. He partook of the food, and his wife and daughter ate of it also. Within an hour all of them were dead. Naturally such a story spread over the city and surrounding country with great rapidity. Meanwhile other cases of poisoning from flour were reported, and in all there were something like 25 deaths in Amoy. Some of the flour was shipped up country, and a half dozen cases are reported from that district. The worst trouble, of course, is not so much in the actual facts of the matter, bad as they appear, as it is in the stories which have been spread abroad by antiforeign agitators. In Changchau, a city of well toward 1,000,000 people, about 30 miles inland from Amoy, it is currently reported that hundreds of people

have died from eating the poisoned flour and that many foreigners are among the number. The result of these stories is that the use of foreign flour in a great district about Amoy and Changchau has practically ceased. Hundreds of small bakers and dealers have stocks on hand which can not be disposed of. Many Chinese restaurant keepers and cake mongers have been compelled to go out of business because people will not buy products made from foreign flour. The immediate loss to their business is great, but perhaps the more serious phase of the matter is in the fact that it has taken years of effort to build up a trade in these products and foreign flour generally, and unless the present trouble can be immediately done away with there will be a permanent loss, for Chinese consumers will again become accustomed to purely native food, and the ground gained by the foreigners after years of effort will be lost.

There is no absolutely certain explanation of the trouble. The poisoned flour not only disappeared immediately, but traces of its origin and distribution have been covered up so far as possible, so that it is very difficult to get at the truth. It is probable, however, that the Chinese merchants concerned made an effort to smuggle morphia in some shape into China in packages in the sacks of flour and that the packages of poison were broken and the flour was affected. The duty on morphia is very high, while that on flour is the usual 5 per cent ad valorem. There is no question that a large amount of morphia, opium, and the like is smuggled into almost every port in China. Under the present methods of enforcing the collection of duties the informer system is about the only possible means of detecting such smuggling. In the present instance there was no informer in the case, but the results were not what the merchants concerned counted upon. It is very difficult to get at the facts of such an affair. Sooner or later the truth will be reached, and a repetition of the trouble will be prevented.

I have asked the Chinese authorities to investigate the matter and punish those responsible for the poisoning of the flour and to issue proper proclamations, so that there may be no unjust prejudice against foreign flour, action being asked on the ground that American flour makes up the bulk of the shipments into this portion of China, although there is no certainty that the flour in question was American flour. It is probable that in the course of time there will be such official action as will in a measure reassure the people of the two taotai's districts immediately concerned. In the meanwhile the importance of putting up flour and all products of this sort in sealed packages, and insisting that the packages be unbroken, or the breaking located and responsibility therefor fixed, ought to appeal to American manufacturers. Flour in sealed packages would not have been poisoned before it was sold to these people.

With the prospect of a poor rice crop in this part of China this year, sales of American flour ought to have been exceptionally large. The increase in the sale of foreign flour, nearly all American, in Amoy, has been very marked from year to year, varying of course with the rice crops. A big rice crop results in a reduction in the sale of flour, or rather in a reduction in the rate of increase. Last year Amoy received through the Imperial customs flour to the value of $353,502, against $285,294 the year before. The loss in American trade this year is already serious.

CHINESE COAST SHIPPING.

JAPAN STRIVING TO CONTROL THE COAST TRADE.

Apparently the Japanese are making a success of their efforts to control the shipping trade along the Chinese coast. The new service which they recently inaugurated between Shanghai and Hongkong, via Fuchau and Amoy, is receiving as much business as any other, and inasmuch as it provides connections between the service joining Formosan ports and ports of the South China coast it looks as though it would be a permanent success. At present the steamers used in the service are all chartered vessels, this being due both to the fact that the war is requiring the services of the Japanese vessels belonging to the company concerned and because vessels flying the Japanese flag would be liable to capture by Russian war vessels. The new line is bettering the service to shippers, since it furnishes direct transportation to Formosa from the north instead of following the old line of shipment by way of Japan. By requirement of the Japanese Government, which subsidizes the line, the steamers are also making port and leaving on time.

The shipping business along the lower Chinese coast at present is light. The inauguration of the tea season is helping matters somewhat, but it is thought the tea season will be rather short though brisk. While the war between Russia and Japan is holding Japanese shipping down, so far as returns go, it is really interfering with the Japanese business but little, since chartered steamers are doing the work which will be taken by the Japanese steamers as soon as the war is over. The shipping returns for China as a whole last year show that the British tonnage was 51½ per cent of the total of 63,774,706 tons reported, the American tonnage being just 1½ per cent of the total. The figures as given by the imperial maritime customs report show a general increase in tonnage cleared at Chinese ports of 6,484,317. Of this amount Chinese native type shipping accounted for 4,588,241 tons due to the inclusion in the customs calculation of tonnage entered at certain ports which had never before been included in the official returns. The remainder of the increase, almost 2,000,000 tons, represents an actual increase in tonnage employed in Chinese waters in the course of the year. There was an increase in British tonnage by percentage from 49 to 51½ per cent, but this increase was due largely to the addition of figures above noted. German tonnage on the whole fell from 13 to 12 per cent, although it remained at about the same volume as in 1903. This fact is interesting in view of the possible bearing it may have upon the matter of subsidizing shipping in the Chinese trade.

AMERICAN TONNAGE.

As to the American tonnage the report of the statistical department of the imperial maritime customs says:

"Of other flags the French and Norwegian remained at 2 per cent each and the American rose to 1½ per cent. An analysis of the last named is possible and presents a characteristic phase of the carrying trade of the Chinese ports; the total entries of American ships at four coast ports averaged 2,490 tons and the total at four river ports at 14 tons, the figures being for the former 199 ships, of 495,603 tons register, and for the latter 27,407 ships (launches) of 393,078 tons."

The American trans-Pacific vessels now running are popular and average very high in comfort for passengers and safety for freight. But they are running irregularly, and the manner in which the business of Chinese ports seems to be neglected for business in the Philippines and Japan is telling against their popularity in China.

COST OF BUILDING MATERIAL AND LABOR IN CHINA.

Consuls in China constantly receive inquiries as to opportunities for the establishment of various industries in Chinese open ports, with requests for information as to the cost of buildings, the matter of securing sites, and the kind of labor to be had. The matter of sites has come to be a rather serious one in Amoy and several other open ports, but, as a rule, locations can be obtained for almost any industry under fair conditions and at prices which would be considered very fair in the United States.

Building materials vary greatly in quality and price. Imported materials are high in price, and the time required to secure them often is a serious drawback to their use. Native materials, price and everything considered, are likely to be most generally used. In Amoy, probably an average port in this respect, lumber is practically as costly as it is in the United States and for the better grades costs more. Brick and tiles are comparatively cheap, especially the more common grades, the average value of the brick and tiles of all kinds passing through the imperial customs last year in Amoy being $7.13 gold per thousand, the better grades bringing this average price up higher than the common grades justify. At present a very fair grade of brick can be bought in Amoy, laid down at the building site, for about $12 a thousand (local currency) or about $5.60 gold. Lime, however, is unusually expensive. It is made by the natives from oyster and other shells, is indifferently burned, and is used as sparingly as the owner of the building will permit. Brick and tiling are larger and heavier than similar goods in the United States, and if carefully burned are very good materials, both in Amoy and in other ports which have come under my observation. Their chief faults are the result of careless work and a lack of facilities to properly care for them during manufacture.

It is in the matter of labor, however, that the most uncertain element lies, and what is true of building is true in a larger and more vital sense of labor in an industry after it has been established. Chinese labor can be had at a very low price. Ordinary cooly labor is to be had from $2.50 to $4 gold per month, and the cooly theoretically boards himself. An ordinary Chinese literary graduate can be had for from $15 to $25 a month. But this really means little unless there can be an adequate understanding of the sort of labor that is to be had and other labor conditions which are to be met. Chinese labor varies greatly, not only among men in the same port, which is to be expected in any country, but among the different tribes—races they may be called—in different provinces and ports. It is the general statement of men who are familiar with all of China that the farther south one goes in the Empire the less satisfactory the labor becomes. The Chinese of the north are large and strong, physically, as compared with the men of the southern provinces, and there may also be noted a difference in disposition, energy, and temperament, with the advantage in favor of the northern man. I think it is safe to say that a northern cooly at

$8 Mexican per month is worth more than a southern cooly at $6 per month. No Chinese labor will compare with foreign labor in efficiency, on the whole, although a foreign-trained Chinese workman, when given food and care on a foreign basis, will very often do better than most foreign laborers, and probably thus indicates what may be done in China with better industrial conditions. Chinese labor is tractable, on the whole, generally reliable, and will average up well with that of other nations in fidelity to the interest of an employer.

There is probably nothing upon which opinion is so divided among foreigners and others in China than upon the matter of labor. That Chinese labor is cheaper than other labor, all things considered, however, is amply demonstrated in the fact that wherever it is allowed to come into full competition with other labor it soon has possession of the field. In establishing industries in China it is well to remember that foreign supervision for Chinese labor costs considerably more than supervision for the same industry in the United States. While there is probably no really sound reason why living should cost more for foreigners in China than their living would cost in the United States, it is a fact that most foreigners in China insist upon living on a different scale from what they would in the United States and Europe, and foreign labor costs more. Gradually this state of things will probably be changed, but at least for several years to come the item for foreign labor will be a very considerable one in all expense accounts.

There are promising fields for many industrial enterprises in China and the Far East generally, but before American or other foreign interests enter them there should be a careful investigation of the special conditions to be met and the difficulties to be overcome. A closed sugar establishment at Swatow and a spinning concern at Shanghai losing money indicate that all is not as satisfactory as it might be, although other concerns declaring dividends of as high as 20 per cent per annum on their capital stock indicate what may be the result of investments carefully made and energetically pushed.

FORMOSAN AND OOLONG TEA.

In regard to the tea trade Consul Anderson writes:

The probabilities are that Amoy will handle most of the Formosan crop this year. Time was when it handled all of it, repacking the product and shipping it abroad, mostly to the United States. Of late years, however, more and more of the tea has been shipped direct from Formosan ports. This year the war is interfering with Japanese shipping and trade in and out of Formosa generally. The port of Kilung, practically the only deep-water port on the island, has been closed to trade for war purposes, and the indications are that the American ships, which have been calling at Formosan ports for a number of years for tea cargoes, will call at Amoy and secure their cargoes through the Amoy dealers. Tea bought by foreigners and shipped in neutral vessels will be free of all danger, and while there may really be no danger in tea shipped for Japanese account there is timidity in such matters, especially when the commodity involved can be handled to almost as good advantage some other way. The season's trade in Amoy ought to be very brisk.

There are no indications of a revival of the Amoy or Chinese Oolong production. At present most of the Amoy Oolong grown is

shipped to the East Indies for the use of Chinese residing there and who are willing to pay good prices for the tea to which they are accustomed.

ORDERS FROM AMERICA.

Orders from America so far this season are very satisfactory, and tea exporters here say that there is not only a stronger demand for Chinese tea in the United States this year than usual, but that there is a revival of the demand for such teas from Great Britain and especially from Canada. English and Canadian dealers report that tea consumers seem to be turning from Ceylon and Indian teas to the milder and safer Chinese varieties. The people of the United States never have taken to the black and strong varieties manufactured in India like the people of Great Britain. There is little to fear, however, that increased demand for Chinese tea in Great Britain will increase prices in the United States, for the crop in China and Formosa can be greatly expanded at present prices if the demand is such as to justify it. As things now go, the Formosan planters manage to produce all the tea they can sell. Last season's production illustrated this point. There really was a short crop, but the demand from abroad was steady at fair prices, and the exporters secured tea from many places from which it was unexpected. The planters used tea which generally is not used lest there be too great a drain upon the tea plants; while there was this unusual drain, the practice can be maintained for enough time to permit the maturing of more plants and the enlargement of the tea field generally.

So far the effort to produce machine-made tea in Formosa has not been a success. Export houses here who have built up great business connections in the United States after years of expense and effort are not disposed to enter upon any uncertain schemes, especially since the promised margin of profit over present methods is at best very small.

AMERICAN LEATHER.

Turning to leather, the consul says that leather and its manufactures are becoming important and that several American firms have turned their attention in that direction.

At present the United States has a fair share of the leather trade, but apparently it might have more. Last year there was imported in China 1,835,700 pounds of leather, valued at $577,769 gold, and manufactures of leather were imported to the value of $274,915 gold. In 1903 the imports were 1,503,600 pounds of leather, valued at $468,243, and leather manufactures to the value of $264,664. In other words, something over three-quarters of a million dollars' worth of leather goods are used in China each year, with the trade increasing at the rate of about 16 per cent per annum.

Last year native leather to the value of $279,642 was exported from China. These exports consisted on the one hand of fine parchments, and on the other hand of rough leather for trunks and similar articles. In the north there is also considerable leather and rawhide used for harness and purposes of like character.

For good sole leather and for leather used in the manufacture of shoes, handbags, and the innumerable articles which are coming into use in China and which are exported from China, there is a growing

demand and a bright prospect. In the treaty ports foreign-style shoes are made by hand by Chinese workmen and sold at prices which represent little more than the price of the leather. So long as labor is as cheap as it now is such lines of business will continue to use imported leather in small quantities in detail, but in fairly large quantities in the aggregate.

The nature of this demand, very much like a small retail demand, renders it difficult for a foreigner to get at the trade. At present most foreign leather supplies come through Hongkong and Shanghai houses, and probably the only way to get at the trade is through these cities. Considerable leather also is used for machine belts, some of it being imported under the customs classification of machinery, Germany having much of this trade because of personal representation. For this reason Germany also has the larger share of the trade in fine leather. American manufacturers can produce and sell as meritorious goods for less money.

EFFECTS OF BAD PACKING.

Consul Anderson states that the European manufacturers of confectionery are practically in exclusive control of the Chinese market. He explains the methods of English manufacturers in packing candies, and the inference is that if American manufacturers would put forth an effort and follow the English methods of packing they would be able to secure a considerable portion of this trade. The consul says:

American manufacturers and producers generally have not taken to as many ways of packing goods for use in the Far East and in hot climates generally as competitors, and as a result of their failure to do so are losing considerable trade which ought to be theirs. This is especially true of candies, fine dried fruits, nuts, and similar goods. American consuls in China have written time and time again that the American candies that come to China are poorly packed, and as a result arrive in very poor shape.

Practically no American candies are sold in Amoy at present. The goods which have the market are made in England. Each separate piece of candy is wrapped in tin foil. A tin canister is lined with pasteboard or paper and the goods are placed therein, resting on a bed of paper shavings, and covered with paper and another bed of paper shavings. The cover to the tin fits tightly enough to practically seal it. A pound tin of chocolates or chocolate creams thus packed will retail for from 46 to 60 cents a pound United States currency, depending upon the retailer. I bought a 5-pound box of goods of greatly superior quality of an American dealer at the rate of 17 cents a pound, and the packing was fully as costly as the more careful packing would have been. European candy often comes here in board boxes, but each separate piece of candy is so packed that it can not be injured, or if injured so packed as not to injure the rest of the stock.

HINTS FOR CALIFORNIA SHIPPERS.

What is true of candy is true of many other things, concerning which less has been written. The fig producers of California are putting up a fine class of goods, and the goods would be appreciated by

people here; but they are not salable sent out as they usually are, at least after they have gone through several hands to smaller ports. English packed figs are forwarded in jars or bottles, a 2-pound bottle packed in London retailing here for about 73 cents gold. Of course the figs are imported in London, go through several hands, and are shipped under many other disadvantages. The California producers ought to be able to put figs up at far less cost, in better shape, of better quality, and forwarded more directly to market. Nuts, especially shelled almonds, are also sent out in bottles. Jordan almonds are sold in one-fourth pound bottles at 20 cents gold, and a half-pound tin of English packing retails at a little over 40 cents gold. A 2-pound bottle of Sultana raisins retails for about 60 cents gold.

SECURE PACKING ESSENTIAL.

The list of goods of this sort similarly packed might be lengthened indefinitely. The retailer makes a good profit on these goods, but unquestionably the original packer makes an unusually good profit also, and sells goods which could be sold in no other way. It should be remembered by American packers that goods sent to the Far East, even though the consignment be to the northern part of China, must be so packed that they will arrive in good shape after having gone through an ocean voyage in a hot climate, subjected to great heat, dampness, and rough handling. Goods can be packed so that they will resist all these evils, and men who have been in the export business for many years so pack them. That few American firms appreciate the need or the profit in careful packing, however, is quite apparent from the state of their trade here in such lines, and the worst feature is that most of the goods can be produced in the United States to better advantage than in the countries in which they are now packed.

Some of the larger American houses sending goods to the Far East have commenced to give special attention to the manner in which goods are boxed for shipment, and the change is certainly for the better. A little attention to the matter of packing special goods in special ways will unquestionably be of great benefit in advancing American trade.

AMERICAN ENTERPRISE IN CHINA.

Under date of May 22, 1905, United States Consul-General Richard Guenther, Frankfort, Germany, transmits the following translation of an article from the Ostasiatische Lloyd, published in China, and which is going the rounds of the press in Germany:

The Americans, with their great spirit of enterprise, and the Belgians, with the aid of French capital, have given to all nations trading to China an example which involuntarily compels one to reflect. By means of the concessions they have obtained these two nationalities have actually created a sphere of interest which covers half of the Chinese Empire, more especially taking in its commercial centers and reaching from Canton to Peking. The prospective consequence will be that American and Belgian products, favored by reduced freight rates and rebates, can be marketed at lower prices than the goods of

other industrial countries in Kwangtung, Kiangsi, Honan, Hupeh, Hukan, and Chihli. This will accord with the well-known desires for expansion, commercially and politically, of our American friends, who are apt at making probabilities realities. Furthermore, it should be remembered that the goods transported by the railroads are not subject to paying Likin dues, which will help to a considerable measure to sell American products cheaper. The natural result of this will be to seriously injure German trade in all these provinces. The far-reaching concessions secured by the British threaten equal danger for German trade interests.

Such are the prospects of the future. It is high time that German capital goes to work to safeguard Germany's trade in China and create extensive and reliable markets there for German industries. Ways and means to protect capital in China have never been wanting; in the worst case its safety can be secured by forcible measures. At present it is of the utmost importance that German capital should engage in the Hankau-Cheng-tuer railroad lines.

DIRECT SHIPMENT TO MANCHURIA.

Consul-General Sammons, of Niuchwang, Manchuria, announces the arrival at that place of cargoes of oil direct from Philadelphia. He reports also that the Chinese prefer the American to the Russian oil and that the empty cans are utilized for everything, from an improvised "steel range" to shingling houses and ornamenting harness. The consul writes:

The first cargo of American oil to enter this port direct from the Atlantic seaboard arrived April 18, 1905. The cargo consisted of 43,890 cases, each case containing 10 gallons, or two 5-gallon cans to the case. The Norwegian steamer *Transit* carried this initial cargo of American goods, shipped direct via the Suez Canal, from Philadelphia to Niuchwang.

The *Transit* steamed slowly, occupying eighty days. It is reported she will be sold in Japan and will in the future join the Japanese mercantile fleet.

The steamer *Ardandearg* is expected here with 130,000 cases of oil, and the steamer *Falk* should arrive in August with 84,000 cases, both coming direct from Philadelphia to Niuchwang.

The importation of kerosene oil into Niuchwang, for local use and for shipment into the interior of Manchuria, is almost entirely American. The importation in 1904 was: American, 507,864 cases; Russian, 200 cases; Langkat, 2,000 cases.

The Chinese prefer the American product and the diversity of uses to which the empty 5-gallon oil can is put is even greater in Manchuria than in the United States.

The empty oil can in Manchuria is utilized for everything from an improvised "steel range," on which a clever Chinese cook can turn out a seven-course dinner, to shingling a house and ornamenting the harness of a donkey. The American kerosene oil is now selling at from $3.50 to $4 Mexican, or $1.75 to $2 per case gold. Prices are ranging low in oils because of the interior trade being almost at a standstill.

GERMAN TRADE IN CHINA.

A remarkable report on the commercial position of Germany in China is contained in a recent issue of the Straits Times, a newspaper published at Singapore, a copy of which was furnished by Consul-General Pitcairn, of Hamburg. The Times says:

In Hankau Germany's share in the imports of last year amounted to more than $1,000,000 and in the exports to more than $3,000,000. One million dollars of German money are invested in the coal mines of Pingsaing. Seven German steamers navigate the Yangtse, of which five are plying between Shanghai and Hankau, one between Hanghau and Itchang, the extreme point of navigation, and two between Hankau and Swatow. Other investments of German capital are $2,500,000 in Chinese cotton mills, $500,000 in silk and spinning mills, $1,375,000 in corn mills, $225,000 in the gas works of Shanghai, and more than $2,000,000 in the dockyards, a ship-building establishment, a lighter company, etc. The North German Lloyd is engaged in the coasting trade between Shanghai and Tientsin with twenty-seven steamers, and every fortnight a steamer arrives directly from Bremen. In 1903 steamships to the number of 328 flying the German flag entered the port of Shanghai. In Tientsin Germany controls 60 per cent of the import and 45 per cent of the export trade. The number of German firms doing business at that place has, since the Boxer uprising, increased from 12 to 20, and about $4,375,000 of German capital are invested in enterprises there. Similar reports have been received from Chifu and other coast places. German trade is growing as rapidly as that of all other countries combined, and whatever other countries may undertake after the termination of the present war, German policy will be maintained.

AMERICAN TRADE IN CANADA.

ESTIMATE OF A VISIT TO GREAT BRITAIN BY CANADIAN MANUFACTURERS.

Special Agent Charles M. Pepper writes from Halifax, Nova Scotia, giving the views of a number of the members of the Canadian Manufacturers' Association who have just returned from a visit to England and France in connection with a movement on the part of that association to promote Canadian trade with the United Kingdom and Continental Europe. Nearly two hundred members of the association made the trip, and their views can not fail to interest the manufacturers of the United States. In fowarding the views of a number of these gentlemen, Mr. Pepper noted that a majority of them, while praising the hospitality received in England, exhibit great caution in committing themselves to any abandonment of the present protective policy of Canada or of any marked inquiries of the liberality to be extended to the manufactured products of the United Kingdom in Canada. Mr. Pepper says:

In a few instances the returning manufacturers have somewhat vaguely intimated that they might be disposed to favor an increase of

the preferential rate of 33.3 per cent now given the products of England to 50 per cent, and there also have been some suggestions of a system of maximum and minimum tariffs. But, in the main, the opinion of the Canadian manufacturers, as given to their competitors in England, has been that, while the disposition exists to favor the United Kingdom at the expense of the United States, there is no intention of endangering any Canadian industry that is fostered by the present tariff.

Manufacturers in the United States will be interested in the diverse and conflicting opinions held by the Canadian manufacturers regarding machinery, methods, and labor in the United Kingdom. The vice-chairman of the Montreal branch of the association is thus quoted:

The most interesting things to us, perhaps, were the different manufacturing industries which in Great Britain have obtained a great degree of perfection. We had every facility placed at our disposal for visiting and studying various industries, and I want to say that anyone who says Great Britain is at all behind the times, as far as manufacturing is concerned, speaks from lack of knowledge, and because he is not conversant with the facts as they exist. Nowhere was there the least visible sign of decadence in trade.

As opposed to this view, a correspondent who visited Sheffield and other places formed an entirely different opinion. In his letter this correspondent says:

At each place a certain number of representative manufacturers had intimated their willingness to throw their factories open for inspection on the understanding that the industrial visits would only be undertaken by those engaged in noncompeting industries. In some of the factories the visitors were allowed to see everything, but in others there was a reluctance to show all departments.

One of the things that struck all the Canadian manufacturers was the retention of old-fashioned methods and the failure to adopt labor-saving devices.

"We have not got much to learn in these factories," says one Toronto manufacturer. He was willing to admit that here thoroughness occupied a more prominent place in the output. In the first place the buildings themselves were for the most part old. A conglomeration without any definite plan, resembling more or less a rabbit warren, a multitude of small rooms, crowded and generally poorly ventilated; and then the amount of work that is still being done by hand in these English factories that elsewhere is turned out by machinery is most surprising. It was noticeable on all hands. The modern Canadian factory is interesting to the visitor, mostly because of its equipment of labor-saving machinery. The principle seems to be to use hand labor only where machine labor is impossible. The English factory is remarkable for the opposite reason, the principle being, one is sometimes inclined to think, to use machines where hand labor is impossible. That the English factories have been able to hold their trade in competition with the cheap hand factories of Germany and France and the cheap machine labor of the factories of the United States speaks volumes for the class of work that is turned out in the shops here. England may succeed

in holding the world's manufacturing trade now, but if we were all to start even at the present time I don't think she would be able to get it.

Is the artisan of Toronto or Hamilton better off than the artisan in the English towns? I would answer most emphatically in the affirmative. The Canadian gets better wages and shorter hours, a healthier workshop, and for the most part, a more comfortable domicile. He has more money to spend and his expenses are higher only because his standard of living is higher. He is better dressed, has more luxuries on his table, and is generally more independent than Englishmen. Moreover, he has steadier employment. The evidences of poverty in all these large English cities makes the heart of the sympathetic Canadian ache.

PRICES OF COTTON GOODS ADVANCED IN CANADA.

The recent advances in manufactured cottons made by the combination of Dominion manufacturers in consequence of the rise in the price of raw cotton has caused discussion in trade circles regarding the advantageous situation of the United States for supplying the Canadian market. An advance was made in the price of white and gray cottons a fortnight ago. This now has been supplemented by an increase over the former scale of 2 cents per pound on yarns, 2 cents per pound on cotton ducks, and 2 cents per pound on cotton blankets. The advance of a fortnight ago of one-fourth cent per yard on manufactured lines of print cloth has been increased by another one-fourth cent, making the total advance since July 1 equal to one-half cent per yard. Further advances on yarns are expected. These affect the prices for Canadian underwear, hosiery, and carpets.

It is claimed by the manufacturers that the advance, which is about 10 per cent all around, does not fully compensate for the rise in raw cotton, and it is furthermore declared that these figures will leave the spinner without profit. Wholesalers' stocks of manufactured cottons are said to be very light, so that the retailer at once will feel the advance. It also is generally believed that the stock of raw cotton held by the Canadian mills is small, and that they will be compelled to go into the market to renew their supplies at an early date.

RELATIVE ADVANTAGES OF THE TARIFF.

In connection with this subject attention is directed to current discussion regarding the relative advantages and disadvantages of the tariff that has been in force since 1897. Under it during the last seven years the annual average importations of raw cotton have been $4,800,000, as against $3,100,000 during the previous seven-year period, or an increase in average of $1,700,000. The average annual importations of manufactured cottons during the seven-year period ending in 1904 was $7,500,000, as against $4,740,000 during the previous septennial period. This shows that the greater average annual growth of Canadian importations of manufactured cotton goods, as compared with raw material, was $1,060,000. The comparison is used by the opponents of the tariff as an argument against it. The supporters of the schedule maintain that as a whole the tariff duties have been satisfactory in developing the Canadian cotton manufacturing industry, and that such failure as has occurred has been due to lack of experience and improvident management.

THE DOMINION'S IMPORTATIONS.

Importations of cotton into the Dominion during the last available year are given as follows:

United Kingdom: Cotton yarn, 1,863,200 pounds, value, $500,000; cottons entered by the yard, 47,438,500 yards, value, $3,988,000; cottons entered at value, $3,144,000.

United States: Uplands, $5,932,000. Cloths—colored, $478,600; uncolored, $408,400; total cloths, $887,000. Wearing apparel, $683,000; cotton-mill waste, $121,000; all others, $1,216,000; grand total of $2,907,000.

MEXICO'S NEW TARIFF.

LIST OF ITEMS SHOWING INCREASED RATES.

Consul Louis Kaiser, of Mazatlan, Mexico, sends a synopsis of the modified tariff recently enacted by Mexico and which becomes operative on and after September 1 next. In the list which Consul Kaiser forwards are the items on which increases have been made. The old and new rates are given—the old rates inserted in parentheses. The gross kilo includes the entire packing or casing; the net kilo is the goods without packing or casing. The legal kilo is that prescribed in the tariff act and affected by certain regulations named in the act. Following are the items:

Apparatus for reproducing manuscript, per gross kilo (5 cents), 6 cents.

Belts, of cow-hair felt, for machinery, per gross kilo (10 cents), 11 cents.

Belts, leather, and cables, machinery, per gross kilo (50 cents), 55 cents.

Butter, per legal kilo (20 cents), 25 cents.

Candles, tallow, per gross kilo (18 cents), 20 cents.

Candles, or wax tapers, per legal kilo (60 cents), 70 cents.

Cheese, all kinds, per legal kilo (12 cents), 15 cents.

Coined silver, money of Mexican mintage, in pieces of 1 peso, when imported in amounts exceeding 5 pesos, per gross kilo ($10), $15.

Clocks, for towers and public edifices (unchanged), 2 cents.

Barley, in grain, mashed or germinating, per 100 kilos (5 cents per kilo), $1.50.

Clocks, for house, per legal kilo (75 cents), $1.

Clocks, mechanism for, per legal kilo (60 cents), 70 cents.

Columns, steel or iron, when they have perforation or a special cut, brackets, bedplates for columns, fish plates, braces, with or without bolts, and other pieces of iron or steel for building purposes, not otherwise specified, per gross kilo (3 cents), 4 cents.

Copying apparatus, for reproducing manuscript, per gross kilo (5 cents), 6 cents.

Corn, per 100 kilos (75 cents), 80 cents.

Cotton, unmanufactured and unginned, per gross kilo (3 cents), $3.30.

Cotton, ginned, per gross kilo (7 cents), $7.70.

Cotton, carded, per legal kilo (20 cents), 22 cents.

Cotton waste, per gross kilo (2 cents per kilo), $2.20.

Crackers, all kinds, per gross kilo (15 cents), 16 cents.

Electric lamps, incandescent, commutators, extinguishing devices, circuit closers, with handles, fuses, cut-outs, rosettes, and safety pieces, per gross kilo (10 cents), 11 cents.

Electric lamps, arc, per gross kilo (5 cents), 6 cents.

Fish, dried, smoked, or pickled, or fish products, per legal kilo (12 cents), 15 cents.

Fish, fresh, and fish products, though preserved in ice, per legal kilo (2 cents), 3 cents.

Food stuffs, preserved, animal, per legal kilo (15 cents), 18 cents.

Fiber, vegetable, linen, ramie, and others, not otherwise specified, unmanufactured or rasped, per 100 gross kilos (2 cents per kilo), $2.20.

Fiber, jute, manila hemp, pita, ixtle, henequen, New Zealand, rasped or unmanufactured, per 100 kilos (50 cents), 55 cents.

Furniture, of ordinary wood, without cushions and without incrustations, ornaments of metal or upholstering, containing silk, per legal kilo, 20 cents.

Furniture of fine woods, or ordinary woods with fine veneering, with cushions, and without incrustations, metallic ornaments, or upholstering, containing silk, per legal kilo, 30 cents.

Furniture of fine woods, or ordinary woods with fine wood veneer, without metallic ornaments, incrustations, cushion, or upholstering, containing silk, per legal kilo, 35 cents.

Furniture of fine woods, or ordinary wood, with fine wood veneer, with cushions, and without incrustations, metallic ornaments, or upholstering containing silk, per legal kilo, 45 cents.

Furniture, wooden, of all kinds, gilded or without incrustations or ornaments, other than precious metals, or with upholstering containing silk, per legal kilo, 70 cents.

Geldings, per head ($40), $45.

Girders, iron or steel, not having perforations, nor special cut, per gross kilo (2 cents), 3 cents.

Girders and columns of iron or steel that have perforations or special cut brackets, bedplates, for columns, fishplates, braces, with or without bolts, or other unspecified pieces of iron or steel for building purposes, per gross kilo (3 cents), 4 cents.

Hogs and suckling pigs, per 100 kilos (5 cents), 6 cents.

NOTE.—Also according to the new schedule when imported in cages the weight of said cages will be computed.

Honey, per gross kilo (5 cents), 6 cents.

Hoops, iron and clasps for fastening packages, per gross kilo (1 cent), 2½ cents.

Meat, fresh, of all kinds, per net kilo (8 cents), 10 cents.

Meat dried, salted, smoked, or pickled fish, or fish products, per legal kilo (12 cents), 15 cents.

Machines of all kinds for industry, agriculture, mining, and the arts, not specified, and their loose parts, or repair pieces, per 100 kilos ($1.50), $1.65.

Oats, in grain, per 100 kilos ($1), $1.50.

Oil, impure mineral, per net 100 kilos (3 cents per net kilo), $3.30.

Oil, refined, mineral, benzine, paraffin, and mineral wax, per legal kilo (8 cents), 9 cents.

Paste, Italian, per gross kilo (8 cents), 12 cents.

Plows and loose parts, or repair pieces, sickles, scythes, and other implements for agriculture and clearings, per 100 gross kilos ($1.50), $1.65.

Rails, iron or steel, when the weight of the linear meter does not exceed 10 kilograms, per gross kilo, 2 cents.

Rails, iron or steel, when the linear meter does not exceed 10 kilograms, and switches, turtles, ties, frogs, spikes, and fishplates, for laying rails, per gross kilo, 2 cents.

NOTE.—At present rails pay 1 cent per gross kilo, when the linear meter weighs more than 12 kilos, and are free when the linear meter does not weigh more than 12 kilos.

Silk, artificial, unmanufactured, per net kilo, 55 cents.

Sacks of jute, pita, ixtle, henequen or hemp, specified in section 382, per gross kilo (11 cents), 12 cents.

Snuff, per legal kilo ($3), $3.30.

Steel, in bars, of various shapes, per 100 gross kilos (5 cents per kilo), $5.50.

Tobacco, chewing, per legal kilo, $1.10.

Tobacco, Virginia, unmanufactured, per net kilo (50 cents gross kilo), 55 cents.

Tobacco, unmanufactured, not otherwise specified, filling, per gross kilo, 80 cents.

Tobacco, wrappers, per gross kilo, $2.50.

Tobacco, sifted or cut, for cigarettes per, legal kilo ($1.50), $1.70.

Tobacco, manufactured into cigarettes, per legal kilo ($2), $2.20.

Tobacco, manufactured into cigars, per legal kilo ($7), $7.70.

Tea, per legal net kilo (50 cents), 55 cents.

Toys, automatic, moved by cord, steam, or electricity, per legal kilo (60 cents), 80 cents.

Watches, repeating, silver or other material, except gold, or having parts of gold or gold plate, each ($6), $6.50.

Watches, nonrepeating, gold or gold plated, even though set with precious stones, each ($7), $8.

Watches, repeating, gold or gold plated, set with precious stones, each ($14), $16.

Watches, mechanism, for nonrepeating, each ($1), $1.25.

Watches, mechanism, for repeating, each ($5), $6.

Watches, nonrepeating, of silver or other nonmetallic substance, when inlaid with gold or gold plate, each ($2), $2.50.

Watches, repeating, of silver or other substance, except gold, each ($1), $1.25.

Wax tapers, per gross kilo (60 cents), 70 cents.

Wire, of copper, brass, bronze, or white metal, lined with any substance, per gross kilo (5 cents), 10 cents.

Wire, naked, of copper, brass, or white metal, not exceeding 2 millimeters in diameter, per gross kilo (8 cents), 10 cents.

Wire, naked, of copper, brass, bronze, or white metal, exceeding 2 millimeters in diameter, per gross kilo (5 cents), 6 cents.

Wire, iron or steel, more than 1 millimeter in diameter, per 100 gross kilos (5 cents per kilo), $5.50.

Wire, iron or steel, 1 millimeter or less in diameter, per gross kilo (8 cents), 9 cents.

Wire, for fences, per 100 gross kilos, $2.50.

FREE LIST.

Apparatus for the extinction of fires.
Scientific instruments.
Live animals, not otherwise specified.

Foreign goods will only be subject, on their importation, to the foregoing rates plus the tax of 1½ or 2 per cent collected by the custom-houses in behalf of the municipalities, in accordance with the provisions of article 7 of the general custom-house ordinance, and in giving cases the loading and unloading dues instituted by decree of July 1, 1898. In consequence the decree of November 25, 1902, which laid down the present basis for the assessment and collection of the duties incidental to the importation of foreign merchandise; article 106 of the law of April 25, 1893, and article 4 of the law of May 4, 1895, which, respectively, created a stamp tax on foreign playing cards and foreign alcoholic and fermented beverages are abrogated.

Article 3 of the decree of February 23, 1897, which reduced by 50 per cent the import duties on iron piping intended to be used for city water supply systems, and the provisions of all laws, circulars, and other legal enactments contrary to the terms of the present decree, are repealed, except the provision of the law of March 25, 1905, which granted certain franchises to mining, and the provisions of the law of May 30, 1905, which exempted from payment of duties such foreign articles as being included among those designated by the executive are imported into the territory of Quintana Roo for consumption therein, which provisions are to remain in force for the time fixed by the laws mentioned.

FRUIT GROWING IN IRELAND.

Consul Moe, of Dublin, furnishes the following report on the agricultural industries of Ireland:

Among the improvements in the agricultural industries of Ireland there has been special development in fruit culture. Apart from the scheme of cottage gardening, a series of fruit-growing experiments was conducted during the past year by the department of agriculture for Ireland with a view to inducing farmers in suitable districts to take up the growing of fruit as an important commercial addition to farming. Four centers were selected: Newmarket-on-Fergus, Clonakilty, Piltown, and Broadway, County Wexford; and at each center twenty farmers undertook to plant each an acre of fruit and vegetables. Three further centers at Mountbellew, Piltown (No. 2), and Naas, are in process of organization. The districts selected are places which have in former times been famous for fruit growing, and if the experiments at these places prove successful it is anticipated that the industry throughout suitable districts in the country generally will receive a strong impetus.

The experiments are conducted under the supervision of qualified instructors. The number of trees, bushes, and plants, including apple, pear, plum, gooseberry, currant, raspberry, and strawberry, distributed and planted in the four first-named centers was 400,000; and in the three centers being organized a further 300,000 trees will be

planted. This number does not include the 170,000 trees planted in the cottage gardens.

A fruit show and conference, on the lines of the one held in Cork during the exhibition, was held at Dublin in October. It proved to be a great success.

In connection with the scheme for the development of a fruit-growing industry, the department undertook experiments at Portadown and Drogheda in the preserving of fruit and the making of cider. The fruit crop of 1903 was deficient, there were no trained hands, and much difficulty was experienced in securing a proper water supply. The crop of 1904, on the other hand, has been excellent, and a very large quantity of fruit has been preserved. Those who have tried the preserved products of the factory at Portadown pronounce them to be excellent and quite as good as similar productions of other countries. Steps are being taken to place the manufactured article on the market. A great drawback has been the difficulty in securing a regular and prompt delivery of clean, well-handled fruit. A very large percentage of the fruit brought in was quite unsuited for preserving, and accordingly could only be converted into pulp for sale to jam manufacturers. While by this means the department has been enabled to provide a market for the surrounding growers, it is impracticable to pay a good price for fruit which has to be rehandled and of which only a small part is fit for preserving. Notwithstanding that better prices were paid for clean, carefully picked fruit, growers seemed to take very little trouble about gathering and dispatching their fruit to the factory. An effort has been made to effect an improvement in this direction, and it is expected that the fruit growers will see that more care in the development of the industry is essential if success is to follow.

Vegetable drying to a considerable extent has also been carried on at Portadown. The department has taken up the business of a defunct fruit preserving and drying concern at Drogheda and has made it a branch of the Portadown factory. Generally, it may be said that the experience gained so far with fruit and vegetables grown in Ireland is that they are well fitted for preserving, and that the products are quite equal to those of other countries; but improvement in picking, grading, and delivery must be effected before it can be possible for the business to be made a financial success. It is a question of education. The aim of the department is to encourage fruit growing, as it is realized that without an outlet for second and third class fruit, farmers will not be induced to plant large areas and to take that interest in the industry which is essential to success.

The department has carried out experiments and demonstrations and has trained workers so as to make the conditions as favorable as possible for private enterprise in fruit preserving. When this object is attained its members will deem it their duty to either sell or close the Portadown and Drogheda factories. Already many hands have been trained and have found ready employment in two new fruit preserving and drying establishments started lately.

The department supplies fruit trees free of cost to the persons who undertake to fence the land selected, supply labor, and carry out to the letter the instructions of the expert. The experiments in fruit growing will continue for five years, dating from January, 1904, dur-

ing which time a careful record will be kept of the expenditures and receipts in connection with the cultivation, packing, transportation, and sale of the fruit.

Inspectors from the department have examined the arrangements made for dealing with the traffic in fruit at the principal railway stations from which consignments are dispatched and have also witnessed the handling of packages containing fruit when being placed on the steamships for export to Great Britain. In addition to garden fruit, comparatively large quantities of blackberries and other wild fruit were forwarded to the markets of Great Britain during the year just passed. The inspectors report that apples are frequently exported from Ireland in bags containing about 2 hundredweight (224 pounds) each; this method obviously results in greatly damaging the fruit and making it unfit for the market.

AMERICAN FRUITS IN IRELAND.

The superior packing of American apples, and their low price, as compared with a similar quality of fruit grown in Ireland, together with a favorable demand for such apples here, should lead our American exporters to renewed energies in the matter of securing a market in Ireland. Heretofore this has been accomplished through Covent Garden in London, but there is an excellent opportunity for the establishment of a central distributing station in Dublin, thus avoiding delays of transportation, resales, and middlemen's profits. It is unnecessary to point out that if this market is not secured now the active and intelligent methods of the Irish department of agriculture will very soon make it impossible to compete successfully with the Irish product. Pears should also find a ready market in Ireland, as the fruit is in demand, but can not be successfully cultivated here.

Statistics of the thirteen weeks, from September 3 to November 26, 1904, show that 1,406 hundredweight (157,472 pounds) of apples and 292 hundredweight (34,624 pounds) of pears were imported into Ireland. With direct importation and a central distributing market, say in Dublin, a very much larger demand could be created. There is no cold-storage warehouse here, but as the climate is generally cold enough to prevent early decay of fruit the absence of such an establishment need not interfere with efforts to establish trade in this country.

GERMAN DESIRE FOR SEA POWER.

Consul-General Guenther, of Frankfort, writes as follows concerning the desire for sea power by the ruling classes of Germany:

The ruling elements of the German people—the manufacturing, financial, and commercial classes—have become convinced that the acquisition of colonies is necessary for the maintenance of the position of their country, politically and economically. Consequently, sea power is a popular desire with the Germans, and they will spare no efforts or cost in order to obtain it. The declaration regarding this subject made by the chamber of commerce of Dortmund in its last

annual report represents German public opinion on this subject. That report says:

"A strong navy, commanding respect, is demanded by the large majority of the German people. The conviction gains ground that under the present world conditions a nation can only maintain its independence, protect its interests, and attain far-reaching aims through sea power. Statesmen and diplomats may judge whether public opinion in this connection is right, but we, who have the interests of commerce, the industries, and sea traffic in charge, emphatically declare that purely sober, economic reasons urge the creation of a navy commanding respect—that is, the increase and rapid development of our war fleets.

"Without industrial employment our annual increase of 800,000 people can not find a living; lacking sales for their products in foreign markets, our industries can not subsist; therefore foreign trade and all which is connected with it must be procured.

"The German people have founded colonies, laid ocean cable lines, built a merchant marine of more than 2,000,000 tonnage; our exports are valued at 5,000,000,000 marks [$1,190,000,000]; our industries working for the export trade produce billions of value and feed millions of our inhabitants. What can be more pertinent than to protect our colonies, cables, ports, merchant fleets, and foreign trade against ravishment by foreign powers, and to prevent competing nations from annoying us?

"This chamber has deemed it a duty to give expression to its opinion in form of a resolution adopted by the full concourse at the annual meeting. The chamber is in accord with Germany's most far-sighted economist, Friedrich List, who said: "The sea, this fruitful field for the nation, must be cultivated as carefully as the land, so that it will give bountiful results. It is narrow-minded and borders on the ridiculous for a great nation to plead the expenditure for a navy as being a good reason for leaving its marine interests unprotected. Men intimate with maritime affairs scornfully laugh at the parsimonious system of landlubber economists. The ocean is inexhaustible of good things; one must only have courage and strength to draw them out of it. A nation without shipping interests is like a bird without wings, like a fish without fins, a champion with a wooden sword, a helot and servitor among nations."

"The chamber must acknowledge, however, that something has been done in the past year in developing our navy. In 1904 there were launched two battle ships, the *Deutschland* and the *Lothringen*, each of 13,200 tons displacement and 18 knots speed; one armed cruiser, *York*, of 9,500 tons and 21 knots; two protected cruisers, *München* and *Lübeck*, each of 3,250 tons and 23.1 knots; twelve torpedo boats, each of 420 tons and 30 knots. Completed on the docks were the battle ships *Elsas* and *Braunschweig*, four protected cruisers, and six torpedo boats."

The Dortmund district is the center of Germany's iron, steel, and mining industries. The chamber of commerce of that district represents important and powerful interests, and its utterances deserve attention.

STRIKES IN ITALY IN 1904.

Consul Brush, of Milan, writes about labor strikes in Italy. He says:

There were 372 strikes in Italy in 1904, in 315 of which there were 134,332 strikers, with an average of 426 per strike. It can therefore be presumed that the number of strikers in the 372 strikes was about 158,500. The causes of the strikes were approximately as follows: Dissatisfaction with wages, 138; hours of labor, 21; work regulations, 18; conditions of solidarity, 41; various causes, 81. The strikes were distributed among the trades and industries as follows: Agricultural industries, 48; mechanical and metal industries, 36; mining industries, 36; textile industries, 60; shoe trades, 38; printing, etc., 4; transportation, 28; all other industries, 49. The results of these strikes were as follows: Favorable to strikers, 31 per cent; partially favorable or uncertain, 40 per cent; unfavorable, 28 per cent.

It is to be noticed that strikes in Italy are on the decrease. There was an abnormal number in the year 1901, spreading to almost every branch of industry or trade in which labor was employed throughout the country. Since that unfortunate year there has been a very noticeable decline.

In the year 1904 there was, in addition to the troubles enumerated, a general strike throughout the Kingdom. It was not of long duration, however, lasting on an average in the various centers about three days (September 16 to 19), but in Milan it was prolonged for five days.

The strikes of 1901 are memorable for the number which ended in favor of the strikers. Since that year they have become less efficacious, which is no doubt the reason of the decrease.

BRUSSELS AND AIX LA CHAPELLE RAILWAY.

Consul-General Roosevelt, of Brussels, writes as follows about improved transit in Belgium:

The Belgian Government has sent to the Chamber of Deputies a project of law approving the convention concluded at Berlin August 15, 1903, for improved railway communication between Belgium and Germany. The agreement calls for the construction of a direct rapid line between Brussels and Aix la Chapelle. It is confidently expected that the Chamber of Deputies will pass the bill authorizing the construction of the proposed line before the close of the session, as it is a recognized fact that the present line between the two countries no longer adequately responds to the constantly increasing passenger and freight traffic. The creation of a new line is considered an almost imperative necessity, in view of the energetic competition by the Dutch lines for the transportation of passengers and freight from England to Germany and other central European countries.

Immediately after the bill is passed work will be begun on the new road, the total cost of which is estimated at about 55,000,000 francs ($10,615,000). The present line running between Brussels and Aix la Chapelle will be maintained practically as it now exists as far as Louvain, from which point it will start in a straight line, passing through

the towns of St. Trond, Tongres, and Argenteau, to arrive direct at Aix la Chapelle.

In view of the progress of the application of electricity, it is the opinion of competent engineers in this country that it will be possible in the near future to run a train of cars at the high speed of 200 kilometers (127.27 miles) per hour. The new line is to be constructed so that it may at any time be transformed into an electric road, and with this eventuality in view there will be no level crossings or ordinary bifurcations. The grades will not exceed 10 millimeters per meter (0.394 inch per 39.37 inches), and the curves not more that 8,000 meters (26,240 feet) nor less than 2,000 meters (6,560 feet) in radius.

This line is destined to become one of the principal high-speed lines connecting occidental and central Europe, and will undoubtedly fulfill its object of retaining for Belgium the important international traffic. When this line is completed it is expected that Germany will build a new direct line connecting Aix la Chapelle, Cologne, and Berlin. The railway now in construction connecting Ghent, St. Pierre, and Brussels is also planned so that it may at any time be transformed into an electric road. When completed Ostend will be in direct communication with Cologne by two extra-rapid lines. It is stipulated that the new line between Brussels and Aix la Chapelle must be completed within ten years following the passage of the bill.

CAPE TO CAIRO RAILWAY.

In continuation of United States Consul Ravndal's reports on the Cape to Cairo Railway, United States Vice-Consul William C. Magelssen, Beirut, Syria, transmits on April 25 the following article from a recent issue of the Gazette, published at Alexandria, Egypt:

A most important link in the line from the Cape to Cairo was formed on Saturday week when the great bridge—the highest in the world—over the gorge at the Victoria Falls on the Zambesi River was connected up. This cantilever bridge, which thus forms another link in the Cape to Cairo Railway, initiated by the late Cecil Rhodes, crosses the Zambesi for a distance of 650 feet at a height from low-water level to the rails of 420 feet, or about 380 feet from high water. The second highest bridge in the world is the Viaduct du Viaur, in France, 375 feet.

The bridge was built by an English company on the girder pattern. It is constructed in three spans and has a width of 30 feet. The work was commenced simultaneously from both banks of the river, an electric motor cable with a span of 900 feet, the largest thing of its kind yet attempted, carrying the material from one side to the other. The bridge has ten bays in all, and the rate of construction was estimated at about two bays a month. The delicacy of the operations may be judged from the fact that the slightest deviation from a level would have been productive of considerable difficulties. As it is, the bottom booms have been bolted up.

The Cape to Cairo Railway is an endeavor to connect Egypt with South Africa by a line 5,700 miles long. From the north the railway has reached Khartoum, a distance (allowing for the river gap between

Assuan and Wady Halfa) of 1,400 miles. In the south good progress has been made north of the Zambesi, on the section known as the northern extension, from the Victoria Falls to Kalomo, the administrative center of Barotseland, a distance of 100 miles. From Kalomo the line is to be continued for another 250 miles in a northeasterly direction. It is probable that from Tanganyika there will be two lines, one through the Kongo and another through German territory.

DOMINION FAIR.

The annual Dominion fair at New Westminster, 12 miles from Vancouver, writes Consul Dudley, of Vancouver, will be opened about September 20 by the governor-general of Canada, Earl Grey, on the large fair grounds established many years ago. This year exhibits from all the Canadian provinces and from many sections of the United States will be installed. The exhibits will embrace specimens of blooded stock of all kinds, grain, fruit, and vegetables; the mineral wealth of the country will be represented by a large variety of specimens of ores, and the manufactures of Canada will be advertised by displays from all parts of the Dominion. Many exhibits from the United States have already been entered and many more are expected.

Arrangements have been made by which many of the sporting events scheduled at Portland will be repeated here. Base ball, tennis, lacrosse, and other games will entertain the visitors.

MINERAL OUTPUT OF BRITISH COLUMBIA.

The value of the output of mines in British Columbia is made the subject of a lengthy report by Consul Smith, of Victoria, who writes:

The value of the total output of the mines in British Columbia for the year ended June 30, 1904, according to the report of the minister of mines, was $18,977,359, against $20,000,000 in 1901, although the total tonnage in 1904 was 1,461,609 tons, against 920,416 tons in 1901.

Value of the total output of minerals in British Columbia up to and including 1904, and the value of the output for the year 1904.

Mineral.	Value.	
	Up to and including 1904.	1904.
	Dollars.	*Dollars.*
Gold, placer	66,803,403	4,589,608
Gold, lode	31,451,956	1,115,300
Silver	21,716,870	1,719,516
Lead	12,559,139	4,578,037
Copper	21,381,791	1,421,874
Coal and coke	68,274,893	3,760,140
Building stone, bricks, etc	3,900,000	1,192,140
Other	113,799	600,744
Total	226,201,851	18,977,359

The total value of gold produced, placer and lode, is greater than that of any other metal or mineral, the combined production amount-

ing to $98,255,359. Silver comes next, with a production valued at $21,716,870, followed by copper, $21,381,791, and lead, $12,559,139.

The quantities of the output of the several minerals in 1904 were as follows: Gold, lode, 222,042 ounces; gold, placer, 55,765 ounces; silver, 3,222,481 ounces; copper, 35,710,128 pounds; lead, 36,646,244 pounds; coal, 1,253,628 tons of 2,240 pounds each; coke, 334,102 tons.

The number of metalliferous mines shipping in 1904 was 142, against 125 in 1903, an increase of 17, of which 15 were in the silver and lead district. These, however, shipped less than 100 tons each during the year. Of the 142 mines shipping, there were 76 that shipped 100 tons or more each during the year, against 74 in 1903. The total number of men employed in these shipping mines in 1904 was almost exactly the same as in 1903—3,306 and 3,303, respectively. There are also 26 nonshipping mines, in which 159 men are employed.

The value of the production of minerals by districts in 1904 was: Cariboo, $474,600; Cassiar, $558,573; East Kootenai, $3,210,573; West Kootenai, $5,806,070; Lillooet, $34,583; Yale, $4,190,281; Coast, $4,702,679; total, $18,977,359. The total tonnage of minerals mined in the province in 1904 was 1,461,609 tons.

The following table, carefully compiled, shows the dividends paid by the mines of eastern British Columbia from 1895 to 1904:

Capital stock of eastern British Columbia mines and dividends paid from 1895 to 1904.

Mine.	District.	Class.	Capital.	Dividends paid.
Antoine	Slocan	Silver, lead	(a)	$10,000
Bosun	do	do	$250,000	12,000
Canadian gold fields	Rossland	Gold	600,000	36,000
Cariboo	Camp McKinney	Gold, copper	800,000	275,000
Center Star	Rossland	do	3,500,000	210,000
St. Eugene	Moyie	Silver, lead	3,500,000	210,000
Fern	Nelson	Gold	200,000	15,000
Goodenough	Slocan	Silver, lead	800,000	45,188
Hall mines	Nelson	Silver, copper	1,250,000	160,000
Idaho mines	Slocan	Silver, lead	500,000	400,000
Jackson mines	do	do	(a)	20,000
Le Roi	Rossland	Gold, copper	5,000,000	1,305,000
Last Chance	Slocan	Silver, lead	100,000	218,109
Monitor	do	Silver, lead, gold	275,000	27,500
Noble Five	do	Silver, lead	12,000	50,000
North Star	East Kootenay	do	1,500,000	373,000
Payne	Slocan	do	3,000,000	1,420,000
Poorman	Nelson	Gold	250,000	25,000
Queen Bess	Slocan	Silver, lead	600,000	25,000
Rambler-Cariboo	do	do	1,250,000	220,000
Reco	do	do	1,000,000	287,500
Ruth	do	do	600,000	25,000
Slocan Star	do	do	500,000	600,000
Surprise	do	do	(a)	20,000
Sunset	do	do	(a)	66,000
War Eagle	Rossland	Gold, copper	1,750,000	545,250
Washington	Slocan	Silver, lead	1,000,000	38,000
Whitewater	do	do	625,000	200,000
Ymir	Ymir	Gold	1,000,000	300,000
Total				7,133,547

a Not incorporated.

COAL AND COKE.

The gross output of coal from all the mines of the province was 1,685,698 tons, of which 1,071,337 tons were sold as coal, 159,651 tons were consumed at the companies' works, 432,070 tons were used in making coke, and 22,640 tons were added to stock piles. The amount of coke produced was 238,428 tons, of which 229,618 tons were sold and 8,810 added to stock.

The following table indicates the markets in which the aggregate coal and coke output of the province was sold, the figures representing tons of 2,240 pounds:

Total sales of coal and coke produced in British Columbia in 1904.

Sold for consumption in—	Coal.	Coke.
	Tons.	*Tons.*
Canada	537,744	129,337
United States	532,436	100,281
Other countries	1,157	.....
Total	1,071,337	229,618

The use of fuel oil in California, decreasing consumption, and other difficulties do not indicate that the year 1905 will show any increased product.

Of the coal sold, 53 per cent was exported to the United States, practically all to California, and 20 per cent of the coke sold found the same market. In 1902 75 per cent of Vancouver Island coal went to California; in 1903 about 45 per cent, and in 1904 about 53 per cent.

In 1904 the Crow's Nest Pass Coal Company mined 662,685 tons of coal, of which 168,980 tons were sold in Canada and 118,188 tons were exported to the United States. Of the remainder of the output, 24,617 tons were consumed by the operations of the company and 350,000 tons were converted into coke, of which there was produced 218,857 tons. Of the production of coke, 119,004 tons were consumed by British Columbia smelters and 97,690 tons were exported to the United States.

NOTES ON FOREIGN COMMERCE.

Consul-General Guenther, of Frankfort, Germany, contributes the following notes on foreign commerce:

Australia.—The British Board of Trade contemplates sending out an investigation committee to Australia, which, like the investigation committee to South Africa, is to study commercial conditions and suggest ways and means to divert trade to the mother country. The committee, of which Mr. Jeffray is very likely to be the head, will comprise one member for each of the seven Australian States.

Ceylon and India.—The exports of tea from Ceylon and India in 1904 aggregated 371,322,000 pounds, of which 202,449,000 pounds were shipped from Calcutta and Chittagong, 9,930,000 pounds from southern India, and 158,953,000 pounds from Ceylon. The exports exceeded those for 1903 by about 17,000,000 pounds.

China.—Trade conditions in China are improving steadily. The receipts of the customs administration during 1904 show large gains over those of 1903. Among the articles showing large increases in the amounts imported are noted English cotton goods, Indian cotton yarn, American petroleum, and Japanese matches. The imports of American and Japanese cotton goods and of German sugar and artificial indigo have decreased.

Germany.—Germany's exports of women's clothing during the first four months of 1905 are about 15 per cent less than in the same period in 1904. The reduced shipments to Great Britain and to the United States principally account for this decline. The shipments of female clothing, underwear, corsets, and millinery articles aggregated 42,460 pounds, against 64,360 pounds in the corresponding four months of 1904.

Germany's exports to the Dominion of Canada for the fiscal year 1903–4 amounted to $8,175,604, against $12,282,637 in 1902–3. As the various reports from chambers of commerce and other trade bodies state, even this seriously diminished export has been possible only by disregarding profits and making increased efforts to keep up business connection with Canada. The statements of these German trade bodies contain many woeful expressions over the tariff war existing between the two countries, and the possible loss to Germany of all Canadian trade.

India.—The manager of the Great Indian Peninsular Railway Company, 48 Copthall avenue, London, will purchase cast and wrought iron tubings, leather belting, rubber hose, cast-iron water pipes, soap, and various other supplies.

Madagascar.—According to official statements of the mining bureau of Madagascar the value of gold produced in that island during 1904 and exported was $1,476,000.

MOTOR OMNIBUSES IN ENGLAND.

Vice-Consul-General Westacott, of London, writes about motor buses as follows:

The increase in the number of motor buses for passenger traffic in London and other towns and cities of the United Kingdom has been very marked. The price of the standard double-deck omnibus, carrying 36 passengers, is £950 ($4,623) net London; of the single-deck type, carrying 18 passengers, £850 ($4,136) net London.

The cost of running vehicles of this type, inclusive of all management expenses, depreciation, drivers and conductors, wages, petrol, etc., works out at about 10½d. (21 cents) per mile, while the average receipts of the various companies who have them in use is about 16d. (33 cents) per mile. Attached hereto are specifications of the chassis and reprints from the Automotor Journal giving full descriptions of their mechanism, etc.[a]

The following is an excerpt from the London Daily Mail of May 26, 1905:

"During the past three months the motor omnibuses in London have succeeded beyond the most sanguine expectations of the companies and individuals running them.

"Perhaps the greatest financial and mechanical successes have been scored by the line running between Oxford Circus and Peckham, and by the newer "Vanguard" service from Brondesbury to the Law Courts. Undoubtedly these two have had the effect of creating what

[a] On file in the Bureau of Statistics, Department of Commerce and Labor, where they can be consulted by interested persons.

has now become serious competition, quite apart from the horsed services, for two other companies have now joined in the competition with Messrs. Tilling by so enlarging the Peckham service that the three together provide a motor-omnibus service every four or five minutes.

"In the Edgware road neighborhood, along part of which the "Vanguard" line runs, there are now four companies competing in the vehicles on the section between Brondesbury and Chapel street, viz, the London Motor Omnibus Company, the London General Omnibus Company—a line inaugurated this week—the London Power Omnibus Company, and the Associated Omnibus Company.

"Another important line which has proved a great success is that of the Road Car Company from Oxford Circus to Hammersmith.

"There are already numerous services scattered about provincial cities and towns, so it will be seen that within a very short while figures will be obtainable enabling a comparison on all points with electric tramways. From working figures so far available the profits and convenience of the motor omnibus would seem to be immeasurably greater than those of the tramway car."

PREVENTION OF THE PERPETUATION OF DISEASE.

Under date of May 19, 1905, United States Consul E. Theophilus Liefeld, Freiburg, Germany, transmits from the London Daily Mail of May 18, the following contribution by a physician on the increase of insanity in London:

To prevent the perpetuation of disease is one of the most important problems that confront the medical profession, and the most potent cause—the marriage of diseased individuals—it has, so far, been impossible to check.

In the United States the subject is being grappled with, and several States have passed bills which restrict the marriage of persons afflicted with either mental or physical diseases. It is doubtful, however, if this legislative action will be successful.

For us the importance of the question is manifest when we consider the number of asylums which are being constructed in Great Britain for the housing of lunatics. In the area of London, administered by the London county council, seven large asylums, each containing over 2,000 pauper patients, already exist. As each costs about £500,000 [$2,433,250] to build, and requires some £80,000 [$389,320] per annum for its successful management, the burden which the ratepayers—many of whom are workmen with large families—have to bear is very great, nor can they ever have the comfort of hoping that it will lessen in the future, for it has been calculated that in London the yearly increase of patients will be 500.

Out of a population of 40,000,000 there are 145,000 persons (England 108,000, Scotland 16,000, Ireland 21,000) who are insane, giving an average of 1 insane person to every 276 persons of the population. It is, moreover, asserted that for every certified insane person there is probably another who is suffering from a threatened attack or who may be harmless and yet insane.

It has been recognized that the great cause predisposing to insanity is heredity, but unfortunately it is impossible to obtain any very reliable statistics on the subject. Maudsley says that the most careful researches agree to fix heredity as certainly the cause of not lower than one-fourth, probably as high as one-half, possibly as high as three-fourths of the cases.

It can not be doubted that the tendency of the age is toward the cultivation and spread of these hereditary diseases, for it bars the course of nature and prevents the operation of those laws which weed out and exterminate the diseased in every grade of life. In savage races natural selection remorselessly cuts down the diseased, the race does not become contaminated, and thus a high standard of health is maintained. We, on the other hand, surround the weaklings with an artificial environment, and we struggle with all our strength against the law which condemns the unfit to extinction, but nature eventually takes her revenge on the suffering beings who fret and weep their hour on her stage.

I do not for an instant intend to question the righteousness of these endeavors of civilized man on behalf of his afflicted brother. One can but admire the beauty of the unselfish spirit which prompts his action, but it is right to point out that by these means disease is propagated, the contamination of the race assured, and the care of useless citizens made a heavy charge on the community.

As heredity plays such an important part in the question under consideration, it will perhaps not be out of place to touch lightly on the subject. Ideally considered, heredity would simply be the reproduction of like by like, but this is purely theoretical, otherwise the primitive types would remain being continually reproduced; but the phenomena of life do not lend themselves to such mathematical precision, and as we ascend from the vegetable world to the higher animals we meet with so many exceptions that it almost seems as though all law had vanished.

If a young man becomes insane he is treated in an asylum, and as soon as he recovers he is discharged, however bad his family history may be. Being naturally impulsive, he gets married, and when he returns to the asylum, as he almost always does, he is the father of two or three children. Again he recovers, and again he returns home to beget a tainted race. No asylum is without scores of such cases, and they make up a large part of our moving population—men who beget families in the intervals between attacks of mania or melancholia.

Man is subject to all the general laws of nature. The law of heredity is one of these from which he can not escape; yet while he takes the greatest care not to violate this law in the breeding of his cattle and horses, when it becomes a personal question he ignores it. Can nothing be done? As tending to develop physique and to foster a resisting power to disease, I would draw attention to the recommendations of the royal commission as to the importance of physical training and feeding. As to the latter, some steps are being taken officially, but not before they were needed. It might be cheaper in the end to provide, as a charge incident to school management, meals and the preparation and cooking of them for children whose parents are too poor to pay for them. Considering that the children of the present generation will be the parents of the next, this would be a wise expenditure if they were enabled to grow into men and women capable

of exercising an intelligent and well-balanced control over their appetites, passions, faculties, and powers.

Physiology should be regularly taught by competent instructors in every school, for "it is only by instilling into the minds of children from their earliest years, and this is quite possible and feasible, the great leading facts and principles of life and health and sanity, that they can learn how to avoid the pitfalls which they will meet in after years." If any advance is to be made in the improvement of the race by means of deliberate selection, it can only be by a full recognition of the vast importance of the subject, not only on the part of parents and guardians, but on that of the young people themselves.

The enormous power which religious and quasi-religious customs can obtain over a community is illustrated by every tribe and nation throughout the world, and if the vital importance not only of preserving, but of improving the race in its moral, mental, and physical condition was instilled into the minds of our youth with all the fervor that springs of religious convictions, the social sanction is quite powerful enough to do the rest. Many preachers of religion, however, do not always instill this important side of morality into the youth of the land with all the fervor they might. They do not realize, or if they realize it do not preach it, that sickness of soul is largely resultant from sickness of body.

Whenever the subject of the improvement of the race is raised, it is smiled at as most desirable in itself, and possibly worthy of academic discussion, but absolutely out of the question as a practical problem. A practical problem it is, however, and must be solved unless we are content to permit ourselves to be destroyed by it. Considering that we are a dominant race, that we possess the greatest Empire the world has ever seen, that we plant our stock all over the world and lay the foundation of future millions of the human race, to no other nation is the question more important.

INDUSTRIAL DEVELOPMENT OF COLOMBIA.

United States Minister W. W. Russell, of Bogotá, Colombia, under date of May 4, 1905, reports that the present administration has been very active in its efforts to open up the interior of the country and develop and encourage industries. A great number of concessions have been given to natives for improving existing roads and for opening up new ones.

Henry G. Granger, an American citizen, has been given a concession for building a railway from a point on the Gulf of Uraba (Darien), to be called "Ciudad Reyes," to Medellin, the capital of the Department of Antioquia, with the privilege of building branches and extensions to the southern part of the Department of Cauca. The Government guarantees a subvention of $30,000, or 10,000 hectares (24,685 acres) of land for every completed kilometer (0.62 mile) of the railway. This concession carries with it the privilege of utilizing all coal and petroleum deposits along the line. It is the intention of the concessionaire to clear off the valuable timber which exists in abun-

dance along the route, and cultivate bananas, rubber, cane, and other tropical products. Ciudad Reyes is to be made an industrial city.

Minister Russell also reports that another important concession in which American capital will probably be invested has been granted to J. T. Ford, general manager of the American companies in Cartagena. This concession is for building a railway from La Dorada, the terminus of navigation on the Magdalena River, to a point north on the river about 30 miles below Puerto Berrio, to which point the river boats can always arrive without danger to navigation on account of scarcity of water. With this concession there is an optional contract for the completion of the railway from Puerto Berrio to Medellin. This railway extends at present from Puerto Berrio to Caracelí, and is to be completed from Caracelí to Medellin, a distance of 140 kilometers (86.9 miles).

The contract for the extension of the La Dorada Railway from its southern terminus, Honda, southward to Ambalema, on the upper Magdalena River, has been awarded to Pierson Brothers, English contractors. This railway is controlled by the English debenture holders.

Another concession just published is granted to Enrique Cortes, representative of European capitalists, for the construction of three divisions of railways, as follows: (1) From the Magdalena River to Bucaramanga, the capital of the Department of Santander; (2) from Bucaramanga to the frontier of the Department of Boyaca; (3) from the frontier of the Department of Boyaca to Bogotá.

MEXICAN NOTES.

The following Mexican notes are from Consul Le Roy, of Durango:

Increase in fire insurance rates.—Twenty-six fire insurance companies doing business in Mexico, nearly all of them British and German companies, have raised their rates on account of several rather expensive and unusual fires, among them the burning of a large electric plant at Mexico. Mexico City, having fire protection, is placed in a special class. Other places are divided into four classes, with increases of from 15 to 40 or more per cent. Even then the rate will be lower for the majority of the cities than for cities of the same size in the United States, despite the general lack of fire protection. Mexican building materials are mostly adobe and stone, and fires are rare and generally not destructive.

Information society.—The Mexican Federal Government has just chartered a society to be known as the Asociación Financiera Internacional (International Finance Association), the object of which is stated to be to disseminate information throughout the world regarding commercial opportunities in Mexico, thus stimulating investments. It will publish a monthly bulletin, and will also conduct a bureau wherein queries will be answered privately.

American shoes.—Attention has previously been called to the fact that American shoes are sold at outrageously high prices in Mexico, a $3.50 pair bringing from $12 to $15, Mexican money ($6 to $7.50 United States), notwithstanding the duty averages no more than 50 cents gold per pair. Some American manufacturers are now taking

the precaution to mark on the soles of their shoes the price at which they should be sold in Mexican money. Pressure is also being exerted upon the Mexican dealers by the development of the mail-order business. These dealers have been satisfied only with about 100 per cent profit, and sometimes more. Not only are Americans sending by mail for their shoes—certain American houses doing a large business in this direction—but the Mexicans, as well as foreign inhabitants of Mexico other than Americans, are beginning to do the same. In this city a short time ago an order for forty pairs of shoes for young Mexican and German clerks was sent away by mail to a single New England firm.

MOTOR OMNIBUSES AND ELECTRIC RAILWAY CARS.

The experimental use of motor omnibuses has gone to a considerable length in Great Britain, writes Consul Mahin, of Nottingham, but, contrary to a previous supposition, the result apparently demonstrates the greater utility and economy of electric street railways. As respects utility, it is concluded that the electric motor driven vehicle is much simpler and possesses superior power in sundry ways in comparison with a petrol motor vehicle. But particular stress is laid on the greater cheapness of operation and maintenance of the electric railway in comparison with the motor omnibus. Experience shows, it is claimed, that the rubber tires of the omnibus cost for maintenance about 4 cents a mile, against 2½ cents a mile per car for rails, allowing for the capital expenditure in the original cost. This difference is figured at not less than $500 per annum for each vehicle.

The cost of propulsion is also given as much less for the electric car. For each ton weight thereof the cost of electricity is placed at 24 cents, while for each ton weight of vehicle propelled by a petrol motor the cost of petrol is placed at 80 cents. It is further estimated that the cost of petrol is likely to rise as the demand increases, while the cost of producing electricity is steadily falling, and it is noted that the expenditure therefor would be even less than it is if street railway cars were allowed to go as fast as motor omnibuses.

IDLENESS AND INDUSTRIAL EDUCATION.

Consul Covert, of Lyon, transmits the following translation from the French Congressional Record of May 10, 1905, of the principal points in a report on relief for unemployed workingmen, by Mr. Fernand Engerand, in the name of a house committee of which he is chairman:

The involuntary idleness of the working classes is the gravest question before the public. It recruits the armies of hungry men, and yet no branch of social economy has received less serious attention. We have but few documents and statistics upon the subject, yet its consideration is of vital importance to the peace and welfare of society. Remedies for involuntary idleness have been applied, but they have all been makeshifts, and the trouble reappeared as soon as the expe-

dients ceased to operate. All remedies, however well intended and praiseworthy, have been only temporary expedients and palliatives—none of them calculated to strike at the root of the trouble. They merely stay the evil, and sooner or later the community must pay dearly for having resorted to them. Temporary assistance by work, as it is applied in the large cities, is at best alms in a disguised form. Public workhouses were established under the Republic of 1848, but the experience with them was very disappointing. Under the second Empire great public improvements were carried on in Paris; but the taxes are so high to-day and the annual appropriations of the State so large that it would be impossible to resort to such expedients now. At best employment was only temporary.

It is proposed to insure workingmen against enforced idleness. But the idleness comes when and where it is least expected, and the men who could insure themselves are the ones most likely to have employment. Some men by having steady employment keep others out of work, and it has been proposed to limit or restrict their labor. But we know that limiting the hours of work of the men in one trade will not afford work to men in other occupations. In reducing the hours of work for men who have steady employment, without increasing their wages, we only secure an equality of misery and want. Instead of attempting to equalize labor by limiting the hours of work, would it not be better, first, to discover the causes of all this enforced idleness? Socialists insist that enforced idleness is the result of the capitalist system, and can only end with the abolition of that system. If we seek to discover the responsible cause, it is necessary to condemn science, which has devised means of substituting machinery for muscle. We may also cite as a cause the great Revolution of 1789, which suppressed the laws ordaining the methods and the conditions of labor, which protected workingmen against competition and competing products and even against the progress of science.

Competition is the first and the sure cause of enforced modern idleness. Formerly competition in manufactures depended upon the skill and the number of employees; machinery was secondary. The progress of science has so changed things that to-day competition depends upon machinery and not upon man. Machines now earn a large part of the receipts. The output of factories is so large that employers are obliged to depend upon low prices to sell their products. As the cost of transportation has been materially reduced, as taxes in France have constantly increased, and as countries like the United States and England are not taxed to maintain a heavy peace armament, the French producers have been driven to reduce wages in order to support the constantly increasing competition. The circle of this competition has been constantly increasing; from being merely national it has become international. The change has revolutionized the conditions of labor. Mr. D'Estournelles de Constant and others have called attention to the growth of industry in the extreme Orient, based solely upon the lowering of wages. What is to be done to compete with Japanese labor where 10 sous (about 10 cents) is considered good wages for a day's work of fourteen hours?

On the other hand, some nations, to demonstrate their industrial superiority, have overproduced and have vied with each other in dumping their products upon foreign markets. Foreigners thus make the prices of our products and dictate our wages, absolutely independent of the cost of living here and the needs of our working classes.

Germany, which has taken the lead in this dumping business, has been forced to modify her production. That country has increased production so much that she has been compelled to enforce idleness upon her working classes. She has been forced to regulate the output and to make it correspond with the demand. Such a movement would prevent a sudden stoppage of work, but it would necessitate momentary interruptions of employment pending the adjustment to new conditions. Many difficulties must be surmounted to adjust our industries properly to the conditions of demand and supply. Demand is often conjectural and fashions are introduced to maintain or stimulate it. Overproduction, or unemployed workingmen, these are the conditions imposed by the modern state of industry. In reaching overproduction labor has been attracted to the city from the country. It is upon this point that the report wishes to especially call the attention of the Parliament.

Some years ago the minister of the interior visited a night refuge in Paris and investigated the condition of the men there. They were generally working people who had flocked to the city to find employment, which was not to be had in the villages. The conditions in the country were such that the employer was obliged to reduce the number of his employees. Work in the country has become industrialized, and it is in the same situation as work in the cities. Labor has been replaced by machines—such as mowers, reapers, etc. These machines have cut wages at least 25 francs ($4.82) per hectare (2.47 acres). From 1862 to 1882 the use of machines increased 1.125 per cent. From 1876 to 1881 the country districts lost 821,000 inhabitants; from 1881 to 1886, 455,000; from 1886 to 1891, 585,000; from 1896 to 1901, 670,987. Some departments (Calvados, Orne, and the Manche), from 1846 to 1891, saw the density of their population reduced 17 persons per square kilometer (0.3861 square mile), falling from 71 to 54. In some arrondissements the population was reduced 35 to 40 per cent. Some villages have lost over half their population within fifty years. This loss was largely in farm hands.

The exodus of labor from the country has progressed step by step with the introduction of machinery. It is asked whether the introduction of machinery has caused this exodus or whether the exodus has caused the use of machinery. The use of machinery rendered hand labor relatively more difficult and less desirable, which made machine labor more necessary and finally indispensable. Mr. Engerand adds that he is not making a case against machinery, but simply setting forth a social condition, an economic fact. That the perfection of machinery did a great injury to labor can not be doubted. If the laborer did not find in the village an occupation to replace what he had lost by the application of improved machinery he was inevitably driven to the city, and his departure aggravated the bad condition of things in the country, for there are kinds of work that a machine can not do, and there are farmers who can not afford to use machines.

Mr. Engerand here quotes a passage from an optimistic speech made by the great socialistic leader, Mr. Jaures, in which he expressed the belief that he would one day see every farmer, even the poorest, the owner of an improved machine and using it for his own profit. Continuing, Mr. Engerand says:

"The fortunate cutting up of rural property into small parcels has deprived such property of its privileged character. It was one of the

least questioned benefits of the revolution. The farm laborer can to-day become the owner of the land he cultivates, and this fact, from a social point of view, is of an eminently conservative character. Thus in many regions of Normandy the rural proletariat was formerly unknown. There was throughout the country districts only a hierarchy of landowners, lending each other mutual aid and assistance. The existing agricultural crisis, inaugurated by the development of machines, first struck the day laborer, the workingman owning a small parcel of land, and in driving him to the city rendered and renders farm labor more and more difficult. The blow next fell upon the small landowner who, not having the means to keep step with progress and to apply the new methods, found himself distanced and was compelled to give up the field.

"The future now seems to be given up to "industrialized" farming, i. e., to farming on a large scale, with a fixed number of hands regularly employed. Who does not see the danger? To what extent will this tendency to concentrate effort in agriculture advance the doctrines of socialism? The small rural holdings are the very safeguard of individual ownership. When they disappear everything will soon fall to pieces. A wise government should have foreseen these consequences and sought to lessen their effects by affording other occupations to men thus thrown out of work by machines. This would have prevented them from seeking in the cities the employment they could not find in the villages. Small rural industries should have been developed as has been done in Russia, in England, and in Hungary, to give employment to workingmen in dull times. It would have been wiser to have adjusted teaching to the necessities of country life, to have established, above all, industrial education. It has not been done. The agricultural crisis has thus been aggravated and that has created, in the country, misunderstandings, suspicions, and causes of rebellion. To-day the country is dying; the country is becoming unpeopled. In some districts the working of the land can only be carried on by the help of foreigners—to such an extent that foreign help represents 63 per cent of the aggregate of farm labor. Every census marks an important falling off in the number of agricultural laborers. How can that astonish us? To remain in place one must be able to live there, and often, if he has not some other resources, it is very difficult for a farm hand to live and to support his family."

Mr. Engerand states that he had the curiosity to draw up, without any preconceived ideas and in all sincerity, the expenses of a farmer's family consisting of a father, mother, and three children. He gives the results without pretending to absolute correctness and without asserting that it may apply to other departments than Calvados.

"We must calculate an average of six weeks or two months of no work, which, with Sundays and holidays, reduces the number of days of labor in a year to about 250. The farm hand earns about 1 franc or 1.25 francs a day [19 to 24 cents] and his two meals; without meals, during the harvest, he earns 2 francs, 2.5 francs, and even 3 francs [39 cents, 48 cents, and even 58 cents]. Let us estimate 45 days of harvest at 3 francs, 140 at 1.6 to 2.5 francs, and we have 425 francs [$82.02]—say 500 [$96.50], counting the odd jobs that he may do here and there during the no-work season. As to his wife we ought not to calculate for her over 200 days' work. During the three weeks that the harvest

lasts she can earn 2 francs [39 cents] per day; for the rest of her time 1 franc [19 cents] per day is above the average. Admit that the children earn 100 francs [$19.30] a year, and count at 200 francs [$38.60] the returns from his field. The aggregate of the receipts are then at most 1,000 francs [$193]. Now, here is the lowest calculation of his expenses. House rent, 70 francs [$13.51]; food (bread, meat, groceries, milk, drinks, etc.), 700 francs [$135.10]; 150 francs [$28.95] for clothes; 100 francs [$19.30] for fuel; 70 francs [$13.51] for incidentals, and the expenses already reach 1,100 francs [$212.30], while his income is only 1,000 francs [$193]. We can see that it is absolutely impossible for a farm hand, father of a family, to live and to support his household by his labor—he is almost compelled to have recourse to a public or private relief fund. The least sickness, or the slightest accident, forces him to be an almstaker; his moral and political independence are no longer intact; very often, alas, he will seek in alcoholic drinks oblivion from his misery.

"And how can we be astonished that he goes to the city? Is it with a light heart that he resolves upon that step? No; and I only want for proof the great number of abandoned houses falling into ruins and filling our villages with mourning. Inquire who was the last owner, and you get for answer, 'A workingman, gone to the city, but with the hope of returning to his home, and who for that reason would not sell his house, to which, after making his fortune, he hopes to return and spend the closing years of his life.' These emigrants flock into the cities without technical knowledge of any calling, only prepared for the hardest labor and that which requires no special training. They find employment on extraordinary occasions, such as a universal exposition, but they remain long after, in the way of everyone, and disturbing all the normal conditions of labor."

In a work on the spread of consumption, Dr. Georges Bourgeois has pointed out the dangers that this influx of population causes to the health of our cities. In Paris two-thirds of the population is composed of these emigrants. From this population comes 62 per cent of the deaths from tuberculosis, while in the Paris hospitals tuberculosis represents about half of the total mortality.

This question of the depopulation of the country is a real ground of alarm to one who reflects upon it. Without doubt farm hands formerly went occasionally to work in the cities, but then the wife remained in the village and supported herself by her work; thus she kept up the home, and the husband sooner or later always returned. To-day the wife can no longer earn a livelihood in the village, and when a workingman goes to the city he does not go alone; he carries his home with him—he is uprooted and his family lost to the country. We must turn our attention to the country if we wish to find the cause of the absence of employment. The lack of work for the men of the cities is irregular, variable, sudden; it is almost impossible to foresee the causes of it. The idleness of the workingmen of the country, on the contrary, is regular, normal, and its recurrence can be predicted within a few days. It can therefore be remedied. The sole object to be attained is to permit the agricultural laborer to earn 200 francs more yearly than he now earns. The objective is to create new means of labor in the country and to arouse there an economic activity, which is dying. It is not an unrealizable object; the example of other countries, especially Russia, proves that it can be successfully undertaken.

In Russia there are about fifty domestic industries, and farm laborers can all earn small sums away from the farms, which at times become their principal means of living. Such workmen generally earn 1 franc (19.3 cents) per day, sometimes 3 and 5 francs (57.9 and 96.5 cents), as locksmiths, shoemakers, or in painting icons, etc.; in this manner from 200,000,000 to 300,000,000 francs ($38,000,000 to $57,900,000) are distributed yearly among the rural population. It is natural that the State should protect such useful industries, therefore it financially encourages apprenticeship and favors the sale of products so manufactured. In 1888, 192,750 francs ($37,200) were appropriated to aid these country industries called koutsari; in 1900, 265,000 francs ($51,145) were appropriated for the same end. The minister of agriculture aids the establishment of factories for apprentices, and of schools, warehouses, and salesrooms, in which scholars may be trained. There is at St. Petersburg a permanent exhibition of objects manufactured by the koutsari, a species of industrial museum which sends models, drawings, and perfected instruments into the country. These museums play an important part, serving even as intermediaries between the rural workers and foreigners. Last November an exposition of the rural industry of the koutsari woodworkers was inaugurated at Paris. In short, as far as possible, the State, in Russia, reserves to the koutsari the manufacture of certain Government work, military harness work, etc. Bits and stirrups are made by peasants of Yaroslav for the military service. In 1899 the orders for the ministers of war and marine exceeded 2,000,000 francs ($386,000).

What has been done in Russia has also been attempted in Sweden, in Hungary, and in England, and proves that the organization of rural industry is possible. Every undertaking in this line, although demanded by great public interests, is looked upon with suspicion. Very interesting efforts have been made to develop work in the family and to revive home work by making use of water power and transporting electric power. Who can say that we have not here the initiative of an economic revolution—that electricity will not render to the country that life which has been suspended by machinery concentrating work in and around factories?

But the rural workman is not the only one to be protected. The taxes and other burdens that weigh upon agriculture, together with the general use of machinery, make it seem impossible to raise the wages of agricultural laborers even a fraction. The large farmer who employs men instead of machines certainly does a patriotic service to his country; but if an attempt were made to make him raise the wages of his men he would be driven to the use of machinery. Furthermore, as wages are regulated by the cost of living, it seems that the wages of farm hands must be relatively low, and these conditions render some other work indispensable. In fact, statistics prove that farm wages are higher than they were forty years ago, but a family in the country was certainly more comfortable then than it is to-day. Why? Because formerly besides the man, the wife could by her work earn enough to support the family; it often happened even that the wages of the husband were merely incidental. Certain work for women existed that permitted the wife to earn her livelihood at home while occupied in domestic duties. In the Department of the Calvados the workers in hand-made lace earned annually 10,000,000 francs ($1,930,000), which was distributed through the country in wages of 2 and 3 francs (39 to

58 cents) per day. That was wealth. Other similar industries may be found which would produce the same fruits.

Those little industries are now dying out for want of the fostering care that they should have received. The wife can no longer earn her living in the village. If she finds work, it is only on the most unsatisfactory conditions, and this crisis in the small rural industries in compelling women to adopt industrial pursuits has created a competition among women which has reduced wages.

It is therefore a national and a social duty to foster those small rural industries, often so interesting and always so beneficent. It would be wise to become acquainted with the different trades carried on in the villages and in the homes of the farmers for the purpose of reestablishing, encouraging, and perpetuating them. It would be wise to protect those especially that have succeeded in resisting the twofold competition of steam and foreign countries. The Belgian minister of labor has had a document prepared setting forth all the facts on this subject in his country. Can we not do the same, and would not this be an excellent way of arousing sympathy and calling attention to this subject?

We must restore industrial employment to the country; we must assure a livelihood to the peasant. This is our present duty. But we must also consider the future, and that brings us to the subject of industrial education.

It is a fact that enforced idleness exists above all among workingmen who have no technical education or trade. We keep our children in school until the age of 13. Technical education has been completely neglected on the pretense that it interferes with primary education. This condition is very dangerous, above all for young girls. These children leave school without having learned to do anything with their hands, ignorant of the first rudiments of any trade. They depend upon their families, who have neither the time nor the means to teach them a trade. A precocious desire to earn something or the absolute need of wages drives them to the city, and these children, whose condition we pretend to ameliorate by education, have no other recourse than to become servants.

The boys leave school in the same condition, but with an aversion to farm work. The most intelligent will aspire to a higher education, which will land them in the bureaucracy or place them among the declassés (the unsettled members of society, literary nomads, Bohemians, etc.). The others too often remain in the village, as in a jail, until the date of their military service, when they finally flock to some city. It will not take long for them to compare hard farm work, its small pay, with easier work and better pay in the cities or manufacturing centers, and to conclude that they can not find in the village a means of livelihood or a means of improving their situation. There is but the slightest attachment to hold them to the village or the farm, while everything attracts them to the city.

To keep these children in the village some higher ideal must be offered them than they now have. Some complementary trade must be added to their farm labor. They must have another prospect than that of always being servants, and to provide for them an independent life in the village is not an unrealizable dream. Therefore industrial education should go hand in hand with agricultural labor. That is the only means of checking the exodus to the cities.

At a time when public attention is directed to the enforced idleness of so many of our citizens it is well to call attention to this phase of the question. It would be more practical to eradicate the causes of idleness than to attempt to diminish its effects. It is wiser to assure occupation to the idle than to give them temporary relief. There is a class of workingmen to whom this service may be rendered—the agricultural workers—and they are the only ones for whom no relief has yet been sought.

Therefore the following bill is submitted to the Chamber:

"SECTION 1. Be it enacted that the sum of 10,000 francs [$1,930] be set apart by the minister of commerce to have an investigation made under the direction of the labor bureau on the subject of idleness of agricultural laborers; on the kinds of industry that may be carried on in families or in small village factories that will furnish complementary resources to the farm hand; on the situation of the country workingmen and women, employed in some industry in their homes; on the best means of saving those industries which are passing away, and to prevent the decline of those that have succeeded thus far in resisting the twofold competition of the steam factory and foreign production."

BRITISH COLUMBIA IMMIGRATION SERVICE.

Consul Dudley, of Vancouver, writes to say that—

The establishment of a detention hospital for immigrants at this port, to be controlled and managed by the Ottawa government, may be one of the results of the visit of Dr. P. H. Bryce, chief medical officer of the department of the interior of the Dominion government. All immigrants detained by the inspectors will be treated by a medical officer especially appointed for the work. I understand that a similar hospital has recently been established at Montreal.

At present all oriental immigrants afflicted with infectious diseases not sufficiently serious to warrant sending the patients to the City Hospital are detained at the Canadian Pacific Railway sheds, where they remain until cured or found to be incurable, in which case they are deported to the land from which they came. A. S. Monro, M. D., has been appointed physician to treat all cases of immigrants who are found upon their arrival to be suffering from trachoma or other infectious disease. The medical inspector, Doctor McApline, will continue to examine arriving immigrants, and will immediately turn over to Doctor Monro for treatment all believed to be suffering from contagious disease. There is nothing in the requirements to prevent the landing at Vancouver of people afflicted with trachoma, but the department requires that all suffering from the disease must be detained on landing for treatment until they are cured or it has been determined that they are incurable. In the latter event the patients are to be deported.

Trachoma is a dangerous and infectious disease of the eye, common among Chinese and Japanese. Some medical practitioners claim that the disease does not originate through dirt or filthiness of the person, but rather that it is traceable to the fact that in the Orient it is a common practice for infants to be carried around in the glare of the

sun with their eyes unshaded, with the result that in after years the disease manifests itself. But other physicians class trachoma as a filth disease, which is communicated by the use of towels, etc.

OLD AGE PENSIONS IN NEW SOUTH WALES.

Consul Goding, of Newcastle, New South Wales, writes:

Among the claims made for the New South Wales old-age pension act, prior to its passage, were that (1) it would lessen the number of indigent persons in the various State institutions; (2) it would remove much worry on the part of people growing old as to provision for the future; (3) it would have a tendency to encourage relatives to assist in the support of the aged, thereby avoiding the reflections usually cast upon them when aged relatives become objects of charity, and (4) it would ultimately diminish the taxation required under the old system. The act was passed and has been in operation some five years. The labor members of the Federal Parliament, desiring to pass similar laws, appointed a commission to inquire into the results obtained from the New South Wales act. Among those who testified before this commission was the director of government asylums for the infirm in New South Wales, who stated, in substance, that about six months after the act came into force, 600 old people secured their pensions and left the benevolent asylums; that the majority returned to the institutions and surrendered their pensions, there now being almost as many inmates as there had been prior to the passage of the act; that the reasons given for returning were that they were better cared for in the institutions and could live more comfortably there, and that the annual cost of maintenance per inmate at the asylums was $80. From a statement made by the State treasurer it appears that the amount expended for the old-age pensions last year exceeded $2,500,000, while the amount necessary to support the infirm was greater than ever before, yet the population had not materially increased.

COTTON CULTURE IN AUSTRALIA.

The growth of cotton in Australasia is the subject of a brief report from Vice-Consul-General Merrill, who writes:

There is probably no other country that offers such facilities for the growth of cotton as Australia, but on my recent visit to Queensland I was surprised to find how few acres were devoted to its cultivation. This is accounted for in a great measure by errors in regulating crops and suitable soils, and in the adverse labor conditions. In many parts of the country the soil is too rich for its growth. From what I learn the coastal districts seem the best suited for cotton, which requires strength and firmness. The air in these parts contains the saline properties which are essential to its success.

In America cotton is raised as an annual, but in Australia it could be grown continuously, as there is no frost to contend with. The enormous demand for cotton at present shows that there is a brilliant

future ahead for Australia if the government and agriculturists would consider the subject seriously. In many parts of the country the cotton plant has been found growing in a wild state and there is no doubt as to the suitability of the climate and soil. There are cotton trees grown on plantations at Cairns, Queensland, which are the hybrid of the cotton grown in Mexico and Peru, and which has been said by experts to yield three times the amount produced by other varieties.

Cotton does not exhaust the soil, but has a tendency to make the ground loose, so that rotation of crops is almost a necessity in some districts in order to preserve the condition of the soil, and for this purpose there is nothing so suitable as the grain crops, which are known as the most profitable Australia has produced. Cotton may be said to be the only fiber which can be utilized for immediate manufacture and the most inexpensive for cultivation, and at present is not affected by overproduction, nor is it subject to so much fluctuation as other marketable crops. The by-products, such as oil and meal from the seed, are of inestimable value. The meal is excellent for fattening cattle. The quantity of crude oil is estimated to be about 20 per cent in the variety Caravonica raised in Queensland by Doctor Thomatis. The pulp from the stalks has been used in the manufacture of paper.

At Dacca, in India, the finest cotton in the world was produced in the last century, and at that time muslin could be made 15 yards long and 1 yard wide which weighed only 100 grains. Among the presents to the Prince of Wales when he visited India were three pieces 20 yards long by 1 yard wide, each piece weighing 3½ ounces, or 10½ ounces in all, which shows to what perfection the cotton industry can be brought.

There is no doubt the Caravonica plant would prove an acquisition in America to those interested in the growth of cotton and for crossing with other species.

HEIGHT OF BUILDINGS IN ST. PETERSBURG.

In answer to an inquiry of an Iowa architect concerning the local laws governing the height of buildings in St. Petersburg, Russia, United States Consul-General Ethelbert Watts, under date of May 12, 1905, transmits the following information procured from the municipal board:

LAW OF 1900.

1. The height of private buildings erected in this city, regardless of the number of stories, must not exceed the width of the street on which they are erected. Height is limited by the distance from the sidewalk to the point where the roof of the building begins. In public places and open spaces, as well as on streets having a width of over 77 feet, private buildings for living purposes must not be higher than 77 feet.

2. In case a building is erected on the corner of two streets of different widths the height of such building can be the same on both streets, even if such height should exceed the width of one or the other street.

3. The smallest height permitted for any building, regardless of the width of the streets on which they are erected, is limited to 12⅝ feet on the following basis: (*a*) In those parts of the city which were not inundated during the flood of 1824, or where the water did not rise to the height of over 2 feet from the sidewalk, permission is given for the erection of one-story buildings to the height of not more than 12⅝ feet, counting the distance from the sidewalk to the beginning of the roof; counting from the sidewalk to the beginning of the floor, 2⅛ feet, and from the floor to the roof, 10½ feet; (*b*) in those parts of the city where the water stood over 2 feet from the sidewalk, the foundation must be carried to the height of 7 inches above the water line of the flood, and the story of the building must have a height of 10½ feet, counting the distance from the floor to the roof.

4. The erection of additional stories on buildings is permitted only upon certified evidence that the foundation and walls are sufficiently safe to allow such erection.

5. In erecting buildings the height of living apartments is not permitted to be lower than 7⅝ feet.

Permission is given to erect private residences on the quay of the river Neva and along the canal of the general admiralty building without regard to the height limits herein enumerated.

FREIGHT RATES AND TRADE POLICIES.

Consul-General Guenther, of Frankfort, writes that at the International Economic Conference, held recently in Berlin, one of the German delegates, Mr. Gotheim, a leader of the Liberal party and member of the national legislature, spoke on the subject of freight rates and their influence on tariff and trade policy. Some of his statements were as follows:

"Freight rates should not conflict with or impede the commercial policy of the home country. High freight rates on imported goods and low rates on exported products favor the formation of trusts (as the workings of the German coal trust demonstrate) whereby raw materials or partly finished products are sold to foreign competitors at a much lower rate than to industrial consumers at home, to the serious injury of domestic manufacturing.

"Commercial treaties should guarantee the "most favored" treatment in regard to freight rates on goods of either of the contracting countries, so that the shipper of the one country shall have to pay no higher freight rates on his consignments carried in a foreign country than the native shipper of the foreign country pays. Through interstate freight rates should be fixed between the stations of the one country to those of the other."

TANTALITE INCANDESCENT LAMP.

Consul-General Guenther, of Frankfort, writes on this subject:

Doctor Feuerbach, director of the incandescent lamp works of the electrical establishment of Siemens & Halske, Berlin, delivered a lecture on May 9, 1905, before the joint session of the technical and electrotechnical associations of Frankfort. He said, in part, that

endeavors have constantly been made to construct lamps of greater light-giving efficiency, for the present efficiency is only 1 per cent, 99 per cent of the energy used being converted into heat. As it was known that the light-giving efficiency increases with the increase of the temperature, it was the general desire to use for threads in the lamps metals which have a very high melting point, instead of carbon threads. The tantalite incandescent lamp is the result of years of experiment by the firm of Siemens & Halske.

Tantalite occurs in nature in various minerals. There are two groups of tantalite ores—tantalite and columbite. The tantalite ores, which are found in Australia and Scandinavia, contain tantalate of iron and tantalate of manganese. The columbite ores contain, in addition to tantalite, niobate of iron and of manganese, and were first found in North America.[a] From these ores tantalite is first separated as tantalitic acid, which is converted into a double fluoride of tantalite and potassium, from which tantalite is finally derived as a pure element.

Tantalite as a metal was first found by the Englishman Hatchet in 1801. As the real discoverer of this element, however, must be named Eckeberg, who made investigations in 1802. Berzelius was enabled, in 1824, to free tantalite of its associated element, but even he did not succeed in obtaining pure tantalite.

Doctor von Bolton, chemist of the Siemens & Halske works, after very laborious and painstaking experiments, first succeeded in obtaining pure tantalite. Tantalite is a heavy mineral with a gray metallic luster, extremely resistant to acids and alkalies. Only fluoric acid affects it. Its specific weight is 16.8. Pure tantalite has the hardness of soft steel, but possesses a much greater tensile strength. It can be worked into thin sheets and extremely fine wires. Its melting point lies between 2,250° to 2,300° Celsius. Through repeated annealing it acquires such hardness that tantalite sheets withstand even a diamond borer.

The technical use of large quantities of tantalite is at present impracticable, as 1 pound of this element still costs nearly $5,000. Of what importance the chemical and physical properties of tantalite are for the industries is shown by the fact that Siemens & Halske, for the various processes of manufacture and use of tantalite, have taken out more than two hundred patents in Germany and other countries. The incandescent lamp with a tantalite instead of a carbon thread has various advantages over other means of lighting. The tantalite lamp requires only one-half the current of ordinary incandescent lamps of equal light power. With the same strength of current the tantalite lamps give double the light of the carbon incandescent lamp, and the light is much whiter. The lamp is pear-shaped, like the ordinary incandescent lamp, and the thread has a length of 650 millimeters (25.59 inches) and is 0.5 millimeter (0.197 inch) in diameter. The lamp can be placed in any position. The medium life of a tantalite lamp is from four to a hundred light hours.

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[a] In New England.

AGRICULTURAL INSTRUCTION IN IRELAND.

Consul Moe, of Dublin, writes to say that the policy of the department of agriculture and technical instruction for Ireland is to undertake a steadily increasing amount of education and instruction. The development of this work has been a prominent feature throughout the past year. The number of itinerant agricultural instructors has been increased from 10 to 17, and in every county in which they are at work their services are much appreciated by the county committees and by the farmers. The instruction given by these teachers, together with the influence of other kindred workers, forms an effective means of helping the cultivators to realize the advantages of increasing, under right conditions, the area of land tilled.

The instructors delivered 1,159 lectures during the year closed September, 1904, at each of which there was an average attendance of 64 persons. Besides lecturing, the duties of the instructors include visits to individual farms with a view to giving personal advice, the carrying on of a number of demonstrations intended to illustrate the instruction given, field experimenting to ascertain facts with regard to the crops and modes of treatment best suited to the soils of the locality, and the ascertaining of further data useful to the agriculture of the country. Each of the 17 instructors made on an average 500 visits to farms, and in all 8,500 holdings were personally visited during the year. They carried out 974 field demonstrations and 309 field experiments. Included in these field experiments, conducted under different conditions of soil and climate throughout the country, was one designed to test the qualities of ten varieties of seed potatoes.

In the county centers winter schools were conducted during periods varying from six weeks to five months, and included courses in the practical work of tillage, breeding and management of live stock, veterinary hygiene, poultry keeping, and elementary science relating to agriculture. The number of students admitted to these courses was 161. The schools were situated at Antrim, Armagh, Down, Monaghan, Tyrone, Tipperary, and Galway. Lately these schools have been extended to the counties of Carlow, Kildare, and Wexford, and the number of students has increased to 301.

Agricultural stations have been established for the selection and distribution of different breeds of stock and poultry; but the active working of these depots has been postponed until the farmers now under instruction have reached a proficiency which will enable them to intelligently make use of the benefits to be derived.

A higher course of instruction is being conducted at the Albert Agricultural College at Glasnevin, near Dublin, by the agricultural faculty of the Royal College of Science for students who are being trained as teachers. Special courses were given for the training of creamery managers, gardeners, and horticultural instructors.

Thirty instructresses in poultry keeping were employed during the past year. Their work covered the greater part of Ireland, and the object was, primarily, to improve the existing breeds of poultry by the distribution of pure-bred stock and its adequate infusion, so as to

develop the poultry industry on lines of greater egg production and the rearing and fattening of fowls for the table.

A corps of horticultural teachers is engaged in various districts in the laying out of cottage gardens and in instructing the people in their cultivation and general management. These schemes meet a need which has been very keenly felt, and are proving very satisfactory, especially in improving the resources and home conditions of the smaller cultivators. In the year these horticultural instructors gave 629 lectures, at each of which there was an average attendance of 60 persons, and each inspector visited an average of 600 gardens. The number of fruit trees distributed was 170,000. The number of gardens improved in consequence of the scheme is returned at 8,000. In most of the gardens previous to instruction the only vegetables grown were potatoes and cabbage. In addition to these many of the gardens now have onions, peas, parsnips, carrots, lettuce, cauliflowers, Brussels sprouts, turnips, beans, and leeks.

The teaching of domestic economy in rural districts has made much progress in connection with the county schemes of technical instruction, as well in centers of rural domestic economy aided directly by the department as in towns under the urban schemes of technical instruction. To this form of instruction the department attaches special importance, as it affects directly the home life of the people. The officials aim at making subservient to it the teaching given by the instructors in poultry keeping, horticulture, home industries, and manual work. The teaching embraces that which a thrifty housewife ought to know—cookery, laundry work, home sewing, and in rural districts, poultry keeping, butter making, calf rearing, and some elementary gardening. It is found that the diet of the people is to a large extent innutritious and uneconomical, and one of the purposes kept in view is to enable the housekeeper to understand how to obtain more nourishing food in a more economical way, and in rural districts to increase and vary the food supply by growing vegetables and learning to cook them.

The manual instructor in a rural district adapts his teaching to the special circumstances of his pupils, and aims at imparting to country boys the sort of handiness which will be useful to them in their work on their dwelling houses and about the farms. The home industry classes are intended to provide a means of adding to the income of the rural family and furnish employment for the spare time of the womenkind without interfering with any of the operations of agriculture. In these matters the work of the agricultural and technical instruction branches of the department is closely coordinated.

Home industry classes in lace making, crocheting, knitting, shirt making, embroidery and sprigging, drawn thread work, toy making, basket making, etc., were taught at 100 centers, and were attended by 3,000 pupils. The department makes it a condition that girls in these classes must attend a course of domestic economy instruction.

This work in Ireland, only lately begun, has made such great progress that a new spirit of helpfulness seems to be rising in the people of the hitherto dormant rural districts.

ZAPUPE FIBER PLANT.

Consul Lespinasse, of Tuxpam, Mexico, writes the following interesting report concerning the agricultural possibilities of that region, but more especially on the cultivation of the zapupe fiber plant:

The agricultural possibilities of this region appear to be inexhaustible, but only in a few cases have enterprising individuals, employing modern methods in developing their lands, made use of its prolific fertility. Among its diversified products none will in the near future figure more prominently than the fiber extracted from the zapupe plant.

Marked interest has been developed within the last year in the hitherto unappreciated fiber produced by this plant, although employed by the Indians for centuries in the manufacture of various articles, such as rope, bags, lariats, bridles, cordage, and seines. The zapupe fiber possesses many advantages over other similar fibers, and its pronounced merit as a commercial article will inevitably render it a source of great wealth to this section, where it appears to be indigenous. A tract of land exclusively devoted to its culture and for experimental purposes is now in full bearing, and the results obtained have surpassed the most sanguine expectations.

The zapupe is quite similar in appearance to the henequen plant of Yucatan. The leaves, however, are not so fleshy and are longer. Leaf for leaf it produces slightly less fiber than the henequen, but the total yield of fiber is greater, owing to the fact that there are double the number of leaves on the zapupe plant, which will yield 75 to 80 leaves. Its fiber is white when properly extracted, resistant, and flexible.

Rope made from it does not kink or mildew when exposed to dampness or immersion in water, and will freely run through ship blocks and pulleys, in which respect much difficulty and annoyance have been experienced with inferior fiber. Zapupe will yield the first cutting of leaves three years from the time the young scions are planted, and has a great advantage in this respect over other fiber-producing plants, which as a rule attain their period of production in five to seven years. From the first to the third year after beginning to yield it will produce 100 to 110 leaves annually, gradually decreasing to between 75 and 80 leaves, and retaining that production consecutively for fifteen years. The fiber extracted will on an average be from 2½ to 3 pounds annually for each plant, although in exceptional cases, where the plants have been given special attention, they have produced as high as 4 pounds. The leaves may be harvested throughout the year, from 20 to 25 leaves being cut every ninety days. If the leaves are not cut regularly the life of the plant will be materially shortened—at the end of five to seven years it will throw up from the center a long stem about 8 feet high and will shortly thereafter cease producing leaves and die. If the leaves are constantly cut this does not occur until the fifteenth year and frequently not until the eighteenth year. Branches develop from the summit of the stem and in time become diminutive zapupe plants, which eventually become detached and are scattered over the ground, where they take root and become strong, vigorous plants. This stem produces from 2,000 to 2,500 of these tiny scions; in addition to this, numerous scions spring from the roots of the stump.

The plant requires but little attention. After the land has been cleared and scions planted, 6½ by 6½ feet apart each way, which permits 1,000 to be planted to an acre, it is necessary only to keep the young plants free from weeds. After the second year little or no cultivation is required, as their shade will check all undergrowth which might be injurious to them. Where vegetation is very rank it may be necessary to give the land a light cleaning once a year, to permit laborers to pass freely from plant to plant to cut the leaves. This is a very simple operation, as the laborers are supplied with a long-bladed knife, having a sharp hook-like curve at the end, which is introduced between the stump and the leaf, and with a dextrous upper jerk the leaf is cut off close to the stump. This is essential, as an uneven, ragged stump will deteriorate and often die. After the required number of leaves are gathered and assembled in lots of 50, the long needle-like apexes are cut off and the leaves made up in bundles, tied, and carried to the cleaning shed, situated so as to be within convenient reach of the plants. The machinery is either of the old plain type, with a capacity of cleaning 3,000 leaves in ten hours, or of the recent modern type, with a capacity of 100,000 leaves in ten hours. The leaves are fed at the receiving table of the machine and the perfectly cleaned fiber is delivered at the outlet as fast as one man can handle it. The plain machines cost $300 to $500 gold, and the large automatic machines from $2,000 to $3,000 gold.

A plant one year old will produce fiber within two years. The present cost of such a plant is 3 cents; smaller plants may be had for 1½ cents apiece. With the cost of labor but 50 cents a day, and the laborer boarding himself, it is estimated that the cost of producing 1 pound of fiber is from 2 to 2½ cents a pound, delivered on board, as samples have been recently submitted to fiber experts in New York City, who estimated that the price would range from 8 to 9 cents gold. It is evident that after deducting cost of production a very handsome profit would be realized.

As the plants approach their final leaf production, care is taken to plant young scions between the rows of old plants, so that they will reach maturity as the others die out. The plant is extremely vigorous, as the scions can be removed from the ground, allowed to remain under cover for weeks without the least care, and when planted will grow vigorously and suffer no evil effects. The zapupe will thrive in almost any location and apparently does well on all kinds of soil, but seems to respond quicker in a slightly sandy and rocky environment. The least shade is harmful, and low, wet locations, which are exposed to continued freshets or stagnant water, is fatal to its growth. Slightly elevated ground is preferable, so that drainage will be as perfect as possible. The scions can be set out any time of the year, but the most favorable season is from October to March, as grass and weeds are then of slower growth, on account of cessation of the rains.

Owing to the powerful needle-like thorn at the end of the leaves and serrated edges, the plant is shunned by stock of all kinds after the leaves have reached their full development. This in itself is an important factor in its cultivation, as fencing becomes unnecessary, providing the young plants can be protected until they are 2 years old. After this period all animals avoid the zapupe fields. It is remarkably exempt from disease or attacks of insects or rodents; drought does not affect it, or heavy tropical rainfall prove injurious, providing it

has good drainage, and unlike almost all other agricultural products, it is not urgently necessary to cut the leaves on any specified day, week, or month. If, owing to unavoidable obstacles, the leaves can not be gathered when they have reached the proper condition for fiber extraction, they may be allowed to remain on the stump two or three weeks without any apparent injury. This is a great advantage to the zapupe planter, who can bide his time to remedy difficulties, to control his laborers in case they refuse to work or demand higher wages, or if he desires to wait for more favorable market conditions.

A company has been recently formed here for the cultivation of the zapupe plant on a large scale. Sufficient stock has been subscribed to commence operations at once. Several plantations have been started and others will be developed in the near future. It is therefore safe to assume that in a comparatively short time zapupe fiber will become the principal article of export from the port of Tuxpam, which must necessarily derive many benefits and material improvements from this source of wealth.

DECREASED CONSUMPTION OF ALCOHOLIC LIQUORS IN GREAT BRITAIN.

Consul Mahin, of Nottingham, writes concerning the decreased consumption of alcoholic liquors in Great Britain:

The apparent decrease in the consumption of alcohol as a beverage in this country excites much interest and speculation. The chancellor of the exchequer, who bases his calculation upon the receipts from taxes and customs duties on alcoholic liquids, is credited with the statement that the consumption of both beer and spirits was less in 1904 than in any one of the preceding fifteen years, and that the decline has been continuous since 1900. The chancellor is specially interested, for the reason that 32 per cent of the British national revenue is derived from the taxes on alcoholics. According to board of trade statistics, no other country derives so large a proportion of its public revenues from that source—that of the United States being given as 29 per cent, Netherlands 19, Russia, Sweden, Belgium, and France 18, Denmark 15, Norway 12, Austria-Hungary 11, Germany 5, and Italy and Servia 2. The total revenue from the tax on alcoholics is, however, about $15,000,000 less per annum in Great Britain than in the United States, though the per capita of such revenue in this country is about $4 as against about $2 in the United States.

The outlay for alcoholic drinks in Great Britain is estimated at $820,000,000 for the calendar year 1904, a decrease of about $27,000,000 in comparison with 1903, and of about $83,000,000 compared with 1899. In quantity consumed, beer declined 2½ gallons per capita in 1904 as compared with 1903, and spirits from 1.09 gallons to 0.95 gallon. Comparative statistics of alcoholic beverages consumed by different countries are, however, misleading, unless the fact is noted that British beer contains 8 per cent of proof spirit, while the continental lager beer contains only 4 per cent as a rule.

Some writers refer to the apparent decrease in liquor drinking in this country as "a wave of sobriety." The dull times of the past several years suggest that this phrase may be misleading. A statement that in recent years the dregs of emptied imported wine barrels have

been mixed with water and consumed offers another explanation for the apparent decrease in consumption.

In spite of the decrease shown by official statistics, Great Britain continues to stand far above some other countries in per capita consumption of alcoholic beverages. This is particularly notable in comparison with local-option countries. Great Britain's annual per capita consumption of proof spirit is placed at 4 gallons, while that of the five countries where local option prevails is stated thus: United States, 2.77; Sweden, 2.89; Norway, 1.01; Canada, 1.32; New Zealand, 1.72. This is an average of less than 2 gallons for these countries, while the average of European countries is nearly 5 gallons. Naturally, temperance propagandists urge local option as offering a means of at least mitigating the admitted drink evil in Great Britain. But until Parliament, which controls all liquor legislation, manifests sympathy with the movement the propaganda is hopeless.

The Public House Trust Association, whose objects and methods have been described in a report from this consulate,[a] continues its work along temperance lines, though hampered by lack of funds and by lack of a popular appreciation of its aims. The trust now owns 170 public houses scattered throughout the country, all conducted on the same lines, namely, subordinating alcoholics to other beverages and to food, contrary to the usual public-house policy. Some of the trust houses are paying dividends, though this is a secondary consideration. The dividends are not allowed to go beyond 5 per cent on the invested capital. This trust is fairly entitled to a share of the credit for the apparent declining use of alcoholics in Great Britain.

FALSIFYING FRENCH SARDINES.

Under date of May 22, 1905, United States Consul Louis Goldschmidt, of Nantes, France, transmits the following translation of an article on the Sardine Fisheries of France, which appeared in La Petit Journal (Paris), of May 21:

We have written at length of the terrible misery which existed a few years ago among the population of Brittany, owing to the disappearance of the sardine and the repeated bad years of fishing. Subscriptions were opened all over France, and the readers of the Petit Journal were happy to render assistance, through our medium, to the numerous needy families. Although a little less intense, the crisis none the less still exists, and the congress which met very recently at Lorient tried to remedy the deplorable state of things.

The sardine industry in France supports nearly 30,000 sailors and a considerable number of workingmen and workingwomen in factories, in all over 40,000 families, comprising at least a population of 200,000 individuals, scattered mostly along the southern coast of Brittany and upon the littoral of Vendée.

Sardines have been scarce for the last few years, the cause being less an epidemic spoken of in scientific circles a few months ago than an intense exploitation of the reserved bottoms of the territory by means

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[a] Daily Consular Reports for September 3, 1904 (No. 2047).

of drags, and to the lack of protection to the larvæ and small fry, captured or decimated before having attained full growth and edible size.

The national industry has been subjected to a hard trial, and for two years the manufacturers had to close down or work at a loss, owing to exceptional prices due to the scarcity of the fish. If France has preserved her reputation for the superiority of the quality of the sardines over the world, it is at the price of very heavy sacrifices, and thanks to the care taken in their preparation and the quality of the fish and oil. The competition heretofore by Spanish and Portuguese manufacturers would amount to nothing if the most shameless fraud practiced by certain concerns was suppressed.

Happily the French manufacturers have bestirred themselves. A large number of them, owners of 120 factories, have met at Lorient and have requested that the most energetic measures be taken to prevent such frauds in the future. During the meeting the bill projected by Mr. Georges Le Bail, deputy of Finistère, for the protection of the French industry of preserved sardines against the fraud called "depoting" was very much discussed. We will give the gist of a conversation with Mr. Le Bail:

"It is high time," says Mr. Le Bail, "that a law should intervene to place a high duty upon the entry into France of foreign sardines. The Spaniards and the Portuguese ship into France large boxes containing 140 to 150 sardines. These receptacles are subjected to the operation of 'depoting'—that is, they are divided into boxes of smaller size, which are then sold as French products.

"This substitution brings the fish into contact with the air, and causes the need of reboiling, which diminishes still more the value of a foreign product already inferior. This commerce has assumed very disturbing proportions. The imports, which in 1897 were 2,476,425 pounds, reached 13,545,180 pounds in 1904.

"These sardines are sold more cheaply than ours, which are nearly always of first quality, the reasons for the cheapness being that foreign workmen are paid less than in France, and that in Spain and Portugal the fishing lasts all the year, while here fishing is only profitable during two months. Furthermore these two countries remit upon exportation from their territory the duties upon the oil and the tin boxes.

"Those benefiting from 'depoting' pretended that during bad fishing years it was indispensable to practice this operation in order to retain customers, and they have particularly invoked the interest of the poorer classes, pretending that the 'depoting' permitted the purchase of the sardines at retail very cheap.

"It has been demonstrated from careful study at different points in France, through the chambers of commerce, etc., that the large boxes have been nearly everywhere abandoned, and that the smaller sizes give to the customers sardines in much better condition at 30 centimes [5.79 cents] a box, that is 5 centimes [0.0965 cent] each. There are even boxes containing four or two sardines.

"Consequently, I come back to this: That it is urgent to prohibit the entry into France of the large packages weighing 1 kilo (2.2 pounds) or over. Boxes weighing less than 1 kilo will not suffer from the bill I have proposed. These boxes, containing from 40 to 45 sardines, will permit keepers of restaurants, boarding houses, grocers,

and butchers to satisfy their customers; the sales being renewed oftener and sardines exposed to the air during fewer days will suffer less. Furthermore, our French products will be enabled to compete advantageously as to price and quality. Now, let me speak to you of the frauds, with the proofs in my hands."

Mr. Le Bail passed into his workroom and brought back into the salon a large case filled with boxes of sardines of all sizes.

"Look at this," said he, pulling out the boxes one after the other. Upon all the boxes we read in large letters: "French sardines. Extra fine oil. Manufactured upon the fishing sites."

"You naturally think that you are looking upon excellent sardines, manufactured in France with good, wholesome, fresh oil. You are mistaken. All of these sardines are of foreign extraction. You may be regularly eating them, and how many others likewise. Take this magnifying glass and look carefully at the boxes."

We looked at them with the glass. Ridiculously small, as if ashamed to exhibit itself upon the tin or upon the band surrounding the box, we read the foreign name of the country of their manufacture. But who is going to use a magnifying glass when purchasing sardines?

"You see, this is what the public are made to swallow for fish from our coasts. It is not astonishing that after having tasted these products one begins to detest sardines. There is too much of this fraud, which ruins our national industry, and which causes us to lose little by little the reputation which has cost us half a century of repeated effort and of sacrifice. In order to suppress all these odious deceptions there is but one means. It is necessary that in future foreign preserves have stamped in the center of the cover of each receptacle, either in relief or cut in, in good-sized Latin letters of at least 4 millimeters (0.16 inch) height the name of the country of origin."

DAIRY PRODUCTS IN CHINA.

Consul Anderson, of Amoy, writes on this subject:

Foreign residents of China who use butter sent out from Europe in tins are complaining generally that the quality of the product is decidedly deteriorating. In addition to this there is an abnormal, not to say dishonest, amount of water in the tins. One European product probably receives more condemnation than the rest. Some time ago American butter put up in this manner sold fairly well here, but some American manufacturers adopted tactics similar to those now complained of in regard to the European supply, and the result was a practical destruction of American trade in tinned butter. Some American butter is now shipped here packed in brine, and some people prefer it to all other kinds. The tinned butter trade generally, however, has been cut into greatly by shipments of fresh Australian butter of good quality and selling at the same price as the best tinned butters. This butter comes in refrigerator vessels and may fairly be termed a first-class product. It is not as good butter as the best American product, however, and I have no doubt that if American dairy interests would put up their goods in proper shape and offer a good grade of butter a large and profitable trade could be built up. Already some American

butter in bulk and in pound packages is coming into the market. The complaints now made of the European product offer an opportunity for American shippers to recover lost ground. It will be a long time before fresh butter can be sold in other than the larger coast ports in this part of the world, there being no means of preserving such goods in warm weather during shipment inland. Tinned butter of the first grade sells in all ports which have come under my observation at about 85 cents Mexican per pound (about 40 cents gold).

The manner in which American condensed milk and evaporated cream dominate the market in China is ample enough demonstration that American dairy interests can meet the competition of the world in such lines. There ought to be an opening for American cheese. What cheese is shipped from the United States seems to be popular. It is difficult to handle it in the Chinese market in the ordinary packages and the American cheese producers can probably experiment a little in the line of tinned goods with profit. Considerable European cheese, notably a Swiss product, is sold here in small tins. Any plans for such trade should contemplate small packages. It is difficult to preserve any such product in a hot, damp climate where ice costs 1½ cents gold per pound, if it is to be had at all, as is the case in ports like Amoy.

The experience of American butter makers and of European manufacturers as well, is certainly such as to show the necessity of sending out first-class dairy goods and of giving full weight. It seems rather strange that it is necessary to urge upon the business world such common business principles and ordinary honesty, but there is abundant proof that they are needed, and this, too, without respect to nationality. Trade can not prosper here on a false foundation any more than it can in the United States.

CONTINENTAL TARIFFS AND NOTTINGHAM LACE AND HOSIERY.

Treating of the effect of European tariffs on Nottingham lace, Consul Mahin writes:

The lace and hosiery industries of Nottingham are likely to be seriously affected in their trade with Germany, Austria, and Russia by the new tariffs and commercial treaties which will take effect in the spring of 1906. The local chamber of commerce has made a careful study of the expected results of these new arrangements, and has lodged a statement and protest with the British Government, coupling therewith the opinion that the Government "should take steps to regain their power of negotiating and meet foreign governments, if necessary, with the same arms with which they are injuring our trade."

It appears that under the contemplated schedules the duty on Nottingham lace products entering Austria-Hungary will be increased on 21 different grades and styles by percentages ranging from 25 to 133⅓. Prohibitive duties will be imposed by Russia on several kinds of laces and lace curtains, which are now manufactured in that country, the advance ranging as high as 554 per cent. On other Nottingham articles which may still be exported to Russia the duties will be substantially increased, the new rates ranging from 75 to 155 per cent.

Nottingham lace exports to Germany will not be sensibly affected, for the increases will be practically offset by decreased duties on certain varieties, but hosiery will be hard hit, especially in the cheaper varieties, the duties being specific, on weight, and being most severe on coarse, heavy fabrics. On better class hosiery the German duty, now from 3 to 6 per cent, will be increased about 25 per cent. Cheap hosiery is already barred from Austria by the high duty, and ingress for the finer grades is to be made very difficult, if not impossible, by increases of 25 to 50 per cent on the present duties of 4½ to 10 per cent. The situation will be similar in Russia, as the present almost prohibitive duties of 12 to 25 per cent on hosiery are in most cases to be fully doubled. It is presumable that other British products will also be disastrously affected by the forthcoming Austrian, Russian, and German tariff increases.

SUGGESTED TRADE AGENCY IN RUSSIA.

In a letter to the Department of State United States Consul-General Ethelbert Watts, of St. Petersburg, Russia, calls attention to methods of promoting trade in Russia. Among other things, the consul-general says:

I would strongly urge some encouragement by the Department of Commerce and Labor to the establishing of agencies in this country for the exhibition and sale of American exports, and to serve as centers where general information can be given and agreements made as to credits, freight rates, packing, judicious advertising in Russian newspapers, etc. My idea would be to interest some of our leading exporters, through the auspices of some well-established institution in the United States, to meet, and to agree upon ways and means to bring this about, and to appoint their own general agent. This man should have a perfect knowledge of the Russian and other languages. If such a man can not be found in the United States, consular officers in Russia could easily find an agent to fill the post.

When the Russo-Japanese war comes to an end there will be an abnormal demand for large importations to supply the drain occasioned thereby, and it behooves us to get in line as soon as possible, so as to be in a position to get a fair share of the increased trade.

AFFAIRS IN TRINIDAD.

According to advices from Consul-General Holloway, the Halifax Herald, in a recent issue, prints an interview with a resident of Trinidad, who says:

The sugar crop of Trinidad, which this year is short owing to the drought, will nevertheless pay the planters very handsomely on account of high prices. Trinidad has in Usine St. Madeline the largest sugar estate in the British West Indies. There is talk of starting a new industry by cultivating and utilizing the bamboo as pulp material for making a fine grade of paper. If the project is suc-

cessful it will be an important thing, for no soil is better adapted for the bamboo than is that of the island. Trinidad has coal and oil, although the former has yet to prove a financial success, and, to some extent, the oil also; but the latter is certainly of unusual good quality.

More business is now being done with Venezuela than for the past two or three years, and the merchants are hopeful of the outlook.

The government is contemplating extensive harbor improvements at Port of Spain. It has been proposed to build floating docks there to accommodate the large shipping of the island and enable repairs to be executed at home. No contract has as yet been awarded, but it is believed that within a short time extensive works of this character will be inaugurated either by the government or private parties. This will mean a large outlay of money and much employment for laborers, at the same time greatly enhancing the value of the port and adding to the prosperity of the whole island.

The Trinidad Electric Company, in which Halifax capital is so largely interested, will share in the prosperity of the colony. The company is negotiating with the government regarding the extension of the lines to St. Joseph, 8 miles from Port of Spain, an extension which would pass through several large and growing villages and materially enhance the company's income from passengers and electric light traffic. The present power plant at Port of Spain is sufficiently large to supply the proposed new district. The net earnings for the first four months of this year show an increase over the corresponding period last year of nearly $5,000, and the reserve, after but two years of operation since construction was completed, amounts to more than $82,000.

COTTON CULTURE IN QUEENSLAND.

Commercial Agent Weatherill, of Brisbane, writes:

Crown lands for the growth of cotton can be had and privately owned land can be purchased at reasonable rates, improved and unimproved, at prices varying from $24 per acre downward. Land that is good for maize is generally taken as the standard for cotton, and a comparison with similar land in the United States will, it is believed, fully answer the question as to its suitability for cotton. Virgin forest, scrub land, or cultivated land can be obtained.

Cotton cultivation is entirely by white labor, there being no colored labor available for the purpose. Picking is done by men, women, and children, and at present labor is plentiful. The wages of farm hands run from, say, $4.86 to $6.07 per week and found; for picking cotton the rate will be about 1 cent per pound.

Mules are but little used here in agriculture. Draft horses range in price from, say, $72.99 to $145.99 according to quality. The life of cotton bushes can be prolonged for years by pruning them. Insect enemies of cotton are not persistent in Queensland, though the boll worm is known. So far it has been easily controlled and need never be considered a serious menace to the industry. The weevil has not yet made its appearance here.

By crossing a long-stapled variety of the best cotton grown in Mexico with the sea-island cotton of Peru, a new variety has been

produced which is called "Caravonica" cotton. The Mexican variety (a true Barbadense Gossypium) was chosen for length and fineness and gloss, and the Amazonian for length and strength. The "experts of the British Cotton Growing Association have pronounced this cotton to be of long, strong, and regular staple, rather lacking in fineness, and of all the cottons collected by the association the Caravonica was adjudged the most valuable, surpassing even a special variety crossed by Sir Daniel Morris, C. M. G., high commissioner for agriculture in the West Indies."

AMERICAN PRODUCTS IN DUTCH INDIA.

The following extracts are from the annual report of Consul B. S. Rairden, of Batavia, Java. The remainder of the report will be printed in Commercial Relations for 1904, now in the course of preparation.

Boots and shoes.—Two firms in Batavia have attempted the sale of American boots and shoes, but with little success, as the prices are very high compared with the local make. For instance, American boots sell for about $9 a pair and shoes at about $5 a pair, while boots made here sell at $4 a pair and shoes at $2 a pair. In spite of these prices, sales of American boots and shoes have increased during the year.

Canned goods.—This line of American goods is still used largely in Dutch India, and the importation has increased somewhat for the year, amounting in value to $23,115, against $20,465 in the previous year. It is very difficult to get the actual amount of canned goods imported from the United States, but it is safe to say that it is considerably larger than these figures would indicate. Representatives of Chicago houses have visited Java during the year and have appointed one of the leading firms in Batavia as their agents. Consequently a better quality of goods is to be found on the market. Canned goods of every description continue to find a ready market, and the sales of the Australian article are increasing every year. Although inferior to the American product, it is of fair quality and sells considerably cheaper.

Carriages.—A light 2-wheel vehicle, known as an American buggy, which retails at about $150, is imported and appears to sell very well. I have previously reported on the inferior class of American carriages which have found their way to this market, and I believe that only American carriages of the highest grade are suitable for this climate. Unfortunately a high-class carriage from the United States would be far too dear for the majority of the people here. The freight charges alone would be about $40. Business in American carriages increased during the year some $2,200. I believe better results could be had by the importers and manufacturers if the American material were sent here and the carriages built on the spot.

Clocks and watches.—There is very little change to report in this line of business, although it can be said that the imports of American time pieces increase yearly. During 1902 these imports amounted to $1,670, while 1903 shows $2,143 worth brought in. Most of the

American clocks and watches sold are of a cheap make, the clocks retailing at from $1 to $4, and the watches at from $1 to $10. Germany leads in the trade in this part of the East. The total value of the imports of clocks and watches for the year was about $156,560, of which $60,000 worth was imported from Germany.

Flour.—During 1903 business in American flour increased threefold as compared with 1902. I can not find that there have been any direct shipments from the United States; the bulk has been imported from Hongkong and Singapore, and small quantities from the Netherlands. The total amount of flour imported in 1903 was 34,204,251 pounds, valued at $870,654, Australia sending 3,948,085 pounds, valued at $100,497, against 12,356,488 pounds, valued at $345,982, in 1902. At the close of 1903 flour was selling at 3½ cents a pound for Australian and 4 cents a pound for American products.

Iron and steel.—Business in American iron and steel has fallen off considerably for the year, showing $98,208 worth imported for 1903, while there was $127,932 worth imported in 1902. This decrease is accounted for by the importation in 1902 of some 3,000 tons of iron pipes from the United States for the waterworks at Soerabaya, in East Java.

Machinery.—The only American machinery imported into Dutch India during the year has been the following: Coffee hullers and cleaners, rice machinery, sugar-mill machinery, water wheels, steam pumps, and boring machinery. Mining machinery is no longer required, as the mining business is something of the past, no new companies being floated, and the few now working being fully equipped. Agricultural machinery still finds a good market in Dutch India, but I have seen imported during the year many machines of British manufacture selling cheaper than the American product. The manager of one of our large American engineering firms dealing in agricultural machinery here is much concerned over the importation of these British machines and has advised his firm to reduce prices in order to compete successfully. The imports of American machinery for the year have been somewhat lower, showing $30,356 worth, as against $33,913 in the preceding year.

Petroleum.—There was a decease in the imports of American oil during the year 1903, as the following statement shows:

Importations of petroleum into Java for the years 1902 and 1903.

Whence imported.	1902.	1903.
	Gallons.	*Gallons.*
United States	9,667,360	9,537,815
Russia	25,427	2,141,939
Other countries	3,769,731	9,287,110

The local oil company, known formerly as the "Shell Transportation Company," the "Batum" (Russian oil), "Moeara Enim" (Sumatra oil), and "Dordtsche Petroleum Company" (Java oil) have formed a combination during the year, and the agents of the former, a first-class, pushing firm, handle the oils mentioned. This combination, anticipated for some time, and called the "Asiatic Petroleum Company," is represented throughout Dutch India, and pretty well controls the oil trade in Java. In spite of the competition of the Standard Oil

Company, it will be seen by the above statement that the Asiatic Petroleum Company imported a large quantity of Russian oil during the year, and has more than doubled the local oil trade. This importation of Russian oil has no doubt done much harm to the American trade.

Lubricating oil.—Business in American lubricating oil has increased largely, showing $41,002 worth imported for 1903, against $25,054 for the previous year—a very satisfactory increase considering there are so many cheap oils on the market.

Cigars and cigarettes.—Business in this line has also increased in 1903, the value of the imports of American cigars and cigarettes being $24,480, against $11,990 for the previous year. Some $20,000 worth of cigars were imported from Manila, included under American imports. The differential duty levied on Manila cigars by this government, and mentioned in my report for 1901, was still in force in 1903. This duty, of course, does much harm to business in Manila cigars, which are considered cheap at $35 per 1,000, while a very good Dutch cigar can be had at $20 per 1,000.

PIT WOOD AGENCIES IN GREAT BRITAIN.

In Daily Consular Reports for January 28, 1905 (No. 2169), a report from United States Consul Ridgely, of Barcelona, Spain, was printed under the head of "Opportunity for pit wood exporters." Under date of May 24, 1905, the United States vice and deputy consul-general at Barcelona transmits the two following communications, with the request that they be brought to the notice of American exporters of pit wood, through the Department of Commerce and Labor:

(A. D'Orbigny Faustib & Co., Cardiff, Wales, to United States Consul-General Ridgely.)

SIR: We understand that you have lately been investigating the British demand for pit wood, with the idea of calling the attention of American timber exporters to the opportunity of establishing a market for American pit wood in Great Britain. If this is correct, we beg to inform you that we shall be pleased to supply you with any information you may require on the subject, and that we would be glad to receive c. i. f. offers from American exporters. We would also entertain the idea of representing one of the leading American firms on terms to be agreed. We may say that we are the largest importers of French pit wood in this country, and if you require references, we beg to refer you to all the banks of Cardiff and La Rochelle.

We are, etc.,

A. CAPELLE.

CARDIFF, WALES.

(Morgenstierne & Co., Newcastle-on-Tyne, England, to United States Consul-General Ridgely.)

DEAR SIR: We notice from an article in the Timber Trades Journal that you have been inquiring into the question of exporting pit wood from America. We are extensively engaged in the pit wood agency business, working in the Bristol Channel as well as on the English east coast and Scotland, and any information we can supply on this

matter we shall only be too pleased to give you. If you can in any way put our name before eventual exporters from the American side, we would feel greatly obliged. We look after the exporters' interests in every way possible, representing them on this side, and our commission is 5 per cent.

We remain, etc.,

CHR. MORGENSTIERNE & Co.

IRISH FISHERIES.

Consul Moe, of Dublin, reviewing the Irish sea fisheries for the last ten years, writes:

Save 1899, the year 1903 was the best the Irish sea fisheries have had in the past decade. The number of men in Ireland engaged in sea fishing in 1903 was approximately 25,000, and the number of boats employed was 6,235. The department of agriculture and technical instruction for Ireland afforded instruction in the various matters concerning fishing, and made loans amounting to $13,138 to fishermen to enable them to purchase and repair boats and obtain gear. The department also distributed to fishing centers in Ireland twice a week by telegraph information as to the progress of mackerel fishing. Its steam cruiser, assisted by another steam vessel, was employed during the year in preventing steam trawlers from fishing within the prohibited areas.

As regards the inland fisheries, those of salmon and trout have been most productive. The present annual value of the catch is estimated to be between $14,303,100 and $19,000,000, of which about $290,000 goes to various private proprietors and the remainder to fishermen under common-law rights. Approved salmon and trout hatcheries have been assisted, and the output of salmon and trout fry from 24 hatcheries was, approximately, 4,800,000. Scientific investigations were carried on under the direction of the scientific adviser of the fisheries branch.

The mackerel capture showed a considerable improvement, and, including money paid for labor, brought in over $975,000. The demand for pickled mackerel in America at the beginning of the season was good and prices in Ireland were consequently high, but a decline took place, leading to a surplus of stock toward the season's end. In general there was a fair average trade.

The herring fisheries, though good as regards yield, were not so remunerative as those of the previous year, owing to the fact that the bulk of the take came from those portions of the coast where lower prices ordinarily prevail.

There was a falling off in the total capture of prime fish, although the trawlers working on the Irish Sea had improved takes of sole. Of the 6,235 vessels employed, 376 were of the first class and in the remainder were a great many seagoing craft, although rated under the second and third classes. The tendency seems to be toward larger boats for the purposes of sea fisheries. Instruction in the various matters of fishing was given at certain places, and a few coopers, whose trade

had declined owing to the failure in demand for butter firkins, were afforded an opportunity to learn to make fish barrels of approved pattern. An instructor was sent to teach a crew in the north of Ireland the method of handling a large herring boat.

The upward tendency in the catch of salmon, which showed itself in 1902, continued in the season of 1903. The present annual value of the salmon and trout catch means much to the fishermen of Ireland, and the authorities are energetically striving to bring about a more systematic and intelligent working of the industry. In the Waterford district the season was the best for the past twenty-five years, and in the Skibbereen and Dundalk districts the improvement was remarkable. Very large takes of salmon and grilse were made by drift nets fishing at sea off the north and northwest coasts, as many as 160 fish having been taken in one haul, and some boats' crews earning $725. The angling reports were in nearly all cases most satisfactory to the department. Offenses against the fisheries laws on the whole have diminished, and most markedly in regard to the very deadly practice of poisoning rivers by lime and spurge.

Inspectors have been employed to examine the methods of packing and transportation of fish, with the result that great improvement has been shown by the packers, and the railways are paying closer attention to the proper care, while in transit, of fish given into their charge.

Even with all the present facilities for the development of the fisheries industry it is very doubtful whether the trade will become more than local—in other words, whether the fish will be marketed beyond Billingsgate. Much has been done in the past few years in the way of instruction along lines that will bring better results to the fishermen, but much remains to be done. Harbors must have better facilities for a larger trade and the transportation question must be taken up in earnest. With the lack of cold-storage warehouses and the absence of refrigerator cars, the present system is wholly inadequate to cope with the demands of a great market.

ADULTERATION OF BRANDY IN GREAT BRITAIN.

Concerning brandy adulteration in Great Britain Consul Mahin, of Nottingham, writes:

The British drug and foods act prescribes, among other things, that brandy must be formed of a spirit derived from the grape. Prosecutions under the act disclose a surprising indifference to this provision designed to safeguard the public health. In a London case the presiding magistrate dismissed the complaint against a dealer accused of selling adulterated brandy, and charged the costs to the complainant, with the remark that "the purchaser obtained a liquid of the nature, substance, and quality asked for, and if the brandy was inferior so much the worse for the purchaser." However, on the same day another London magistrate heavily fined a defendant for the same offense on practically identical evidence.

The prosecutions were useful in disclosing the fact that adulteration is so general that a purchaser probably rarely gets pure brandy. Licensed liquor dealers now display printed notices in their shops that the brandy for sale is not guaranteed to be solely extracted from the

juice of the grape. Brandy is habitually adulterated with "silent" or flavoring alcohol; sometimes this is almost the sole constituent, coloring and flavoring matter made from coal tar being used to counterfeit the true grape spirit.

Pure alcohol can be made by modern processes from potatoes, or even sawdust, since any starchy or woody fiber can be converted into a form of sugar and fermented. Such spirit is worth in this country about 12 cents a gallon, and it is this which constitutes from 50 to 75 per cent of the liquid generally sold as brandy in Great Britain. If the purchaser wants simply alcohol, he gets it, but loses those subtle products of the grape which are supposed to have medicinal value, and the presence of which the food and drugs act was intended to insure. The cause of the present general adulteration of brandy is traced back to the ravages of the phylloxera in French vineyards, a generation ago, when wine became very scarce. Brandy was then, almost of necessity, made from a cheap spirit, and the practice has never been discontinued though the necessity long since vanished.

The discordant views of the London magistrates do not augur well for the movement to suppress adulteration. To the imbiber of brandy as a beverage this may have no great importance, but in medical circles it is of the highest consequence. Pure brandy is considered by eminent British physicians as one of the most potent agencies in saving life, but if the patient is, as he might be nine times out of ten, dosed with alcohol from wood or potatoes instead of with the supposed wholesome liquid distilled from the grape, the result may easily be fatal.

TARIFF AND TRADE TREATIES OF GERMANY.

Consul-General Guenther, of Frankfort, submits the following translation of a portion of the annual report of the Mainz chamber of commerce:

In an overwhelming majority, the shipping lines, manufacturing and exporting interests, and the working population of Germany are averse to the new commercial treaties and look with dread upon the prospective effects of the new tariff law. The chambers of commerce and trade in their annual reports to the Government express themselves in a similar way and have rather dark forebodings as to the future.

The annual report of the chamber of commerce of Mainz, the principal trade center of the Grand Duchy of Hesse, says:

"During the twelve years' existence of our trade treaties (which will end next March) our exports have increased by 78 per cent—in 1892 they amounted to $703,052,000, in 1904 to $1,251,642,000. The beneficial effect of these treaties on our commerce and industries is indisputable. It has been alleged, but not proved, that these treaties have injured Germany's agricultural interests. Higher tariff rates on imported agricultural products would only benefit a part of our farming interests. Furthermore, we have to bear in mind that higher tariff rates on imported agricultural products will burden the great mass of consumers, who will be obliged to pay enhanced prices for the necessaries of life. Now, if this tariff advancement acts as a

handicap upon our exportation of manufactured articles, which is becoming more and more important to us, then the injurious effect of such a trade policy is beyond all doubt.

"Nevertheless, and much to be regretted, this policy has been employed in the establishing of the new commercial treaties, which solely favor a few agriculturists without regard to other interests.

"The Government officials state as their view that the German manufacturing industries by increased energy and intelligence will be able to compensate themselves for the disadvantages which the new treaties will bring them. Against this it is pertinent to declare that these industries have all along worked at the utmost tension of their energies and intelligence, otherwise they could not have attained success. Nor is there any consolation to be found in our new tariff bill, which by enhancing the rates also enhances the cost of production and is of no benefit whatever to those industries which are dependent upon the exportation of their products.

"Concerning our trade relations with those countries with which we have been on a footing with the "most favored nations," an adjustment is yet to be made. Great Britain and the United States take first place, as our commercial intercourse with them is of great imporance, these two countries having taken 28.1 per cent of our total exportation in the year 1903. This large export shows the tendency of trade to increase with countries which are most progressive, and especially, as far as the United States is concerned, proves that the oft-expressed fears that German industries are getting crowded out of that country are groundless. The grandly organized exposition at St. Louis has afforded many Germans the opportunity of becoming better acquainted with that mightily rising country on the other side of the Atlantic. The visitors undoubtedly have there received the impression that the studying of American conditions offers much that is instructive and useful to the German merchant and manufacturer.

"For the same reasons we want to use all efforts to maintain amicable trade and political relations with the other countries which hitherto have been on the footing of the 'most favored nations' with us, as far as it can be done within the range of our new tariff law and the already concluded commercial treaties. The principle of the 'most favored nation' clause should be adhered to as much as can be done, so as to enable German industries to compete with those of other industrial countries."

This report, as well as many others by chambers of commerce, tends to show that Germany can ill afford to lose the British and the American markets.

SUGGESTED STATE OWNERSHIP OF BRITISH CANALS.

Of State ownership of British canals Consul Mahin, of Nottingham, writes:

The high local freight rates, the decline of agriculture, the general dullness of trade, and other allied causes of dissatisfaction with present conditions in this country, have directed special attention in recent months to the canal system, which comprises a total of 3,907 miles in

the United Kingdom. Nearly one-third of the total mileage is owned by railway companies, which materially impairs the value of the system as a competitive medium of freight transportation.

The latest proposition is State ownership and the electrifying of the canal system. According to official returns the total annual revenue from the canals is about $12,000,000 and the total expenditure about $8,500,000, which apparently leaves a substantial profit. A prominent civil engineer, who has carefully studied the subject, suggests an appropriation of £20,000,000 (nearly $100,000,000) for the purchase, perfection, and electrification of the canals, which sum would include a reserve working capital of about $15,000,000. The engineer dilates upon the various benefits and advantages to be derived, noting that the proposed electrification would provide a cheap supply of electric power for transport service, pumping, irrigation, plowing, churning, and milling—that, briefly, the revivification of the inland waterway system would go far toward securing a revival of agricultural prosperity.

The engineer scouts the idea that the railways would so lower their rates as to make canal competition impossible, contending that canal transport costs were below those of any possible railway competition in England, and adding that if the canal revivification brought down railway rates, traders and the public generally would consider the expenditure to be well justified, even in securing the freight reduction. However, he observes, it is useless to discuss in detail any mechanical or other methods of reviving the general usefulness of the canals unless the State confiscated or absorbed the canals by compulsory purchase at a fair valuation.

IRISH EMIGRATION STATISTICS FOR 1904.

Consul Moe, of Dublin, submits the following detailed statement of Irish emigration:

The registrar-general of Ireland has presented to the lord lieutenant his report on emigration statistics for 1904, showing sexes, ages, occupations, and civil or conjugal conditions of the emigrants, together with the ports at which they embarked and their intended destinations. The emigrants who left Irish ports during the year numbered 37,415, including 513 persons not of Irish nationality, or 8.5 per 1,000 of the estimated population of Ireland in the middle of the year, being a decrease of 3,244 in comparison with 1903. The number of males emigrating was 17,524, or 1,779 less than in the previous year, and the number of females was 19,891, a decrease of 1,465.

Of the 36,902 natives of Ireland who left the country in 1904, 4,517, or 3.9 per 1,000 of the population of the province in 1901, were from Leinster; 12,606, or 11.7 per 1,000, from Munster; 10,156, or 6.4 per 1,000, from Ulster; 9,623, or 14.9 per 1,000, from Connaught; the total number being equal to 8.3 per 1,000 of the population of Ireland in 1901. Leinster shows an increase of 227, Munster a decrease of 2,098, Ulster an increase of 486, and Connaught a decrease of 1,431 emigrants in 1904, as compared with the emigration of 1903.

The emigration returns were first collected on May 1, 1851. From

that date to December 31, 1904, the total number of emigrants, natives of Ireland, who left Irish ports is 3,997,913—2,076,072 males and 1,921,841 females.

As regards the ages of the emigrants, it appears that 83.8 per cent of the persons who left Ireland in 1904 were between the ages of 15 and 35 years, the percentage over that age being 7.3, and of children under 15 years, 8.9. The corresponding percentages in 1903 for the three age periods named were 80.9, 9.5, and 9.6, respectively. The only quinquennial age period in which the females greatly outnumbered the males is that between 15 and 20, when the number of females was 6,175 and of males 2,309. The quinquennial age period 20 to 25 years furnished the largest number of both male and female emigrants, the persons of this age forming 40.2 per cent of the entire number of emigrants. Of the males who emigrated, 17,524 in number, 1,527, or 8.7 per cent, were described as married men or widowers, and of the 19,891 females, 2,265, or 11.4 per cent, were returned as married or widowed. Of the 15,036 persons between the ages of 20 and 25 years, 290 only were married—66 males and 224 females.

With regard to the destinations of the emigrants it appears that 33,434, or 90.6 per cent of the total, emigrated to the colonies or to foreign countries, and 3,468, or 9.4 per cent, to Great Britain. The United States received 30,580, or 82.9 per cent of the number in 1904, compared with an average of 34,223, or 83 per cent, for the four preceding years. The number of emigrants to New Zealand in 1904 was 123, as compared with 67 in 1903. Emigration to Canada shows a considerable increase compared with 1903, the number being 2,083 in 1904 and 1,493 in 1903. The emigrants to Australia numbered 336 in 1904, against 380 in 1903, 496 in 1902, 595 in 1901, 834 in 1900, and 1,005 in 1899. The 312 persons who went to "other countries" last year include 298 who went to South Africa, 6 to India, 3 to South America, 2 to Spain, 1 to Germany, 1 to Japan, and 1 to Belgium.

Of the emigrants in 1904 to the United States 12,033 were natives of Munster, 9,310 of Connaught, 5,669 of Ulster, and 3,568 of Leinster. Leinster contributed 132 of the 336 who left for Australia. Ulster furnished the largest contingent for Canada—1,538 out of a total of 2,083.

As compiled from the enumerators' returns the number of Irish natives who left Ireland in 1904 with the intention of settling permanently in Great Britain was 3,468. Of these, 2,011 left for England and Wales and 1,457 for Scotland, the averages for the four preceding years being 3,182 and 1,988.

Of the number who went to England and Wales 65.6 per cent were Ulster people, and of the 1,457 who went to Scotland no less than 1,308 were also from Ulster, 638 of these being natives of the county of Antrim. The fact that the province of Ulster is nearest the coast of Scotland, and that industrial pursuits in that country and in Ulster are nearly identical, may account for that percentage of emigration.

The Canadian railroads have opened offices in all the large cities of the United Kingdom and with the Canadian steamship lines do an extensive advertising business. Exhibits of farm produce, fruit, and stock, and exposition of the terms of Government land grants to settlers, are helping to induce the poorer, and even some of the middle classes, to take up their abodes in British North America. This exten-

sive and systematic scheme of publicity furnishes the reason for the increase of the emigration to Canadian territory.

There has been a steady falling off in the emigration to Australia, from 3,896 in 1887 to 336 in 1904. This is probably due to unfavorable conditions for agricultural pursuits and to the lesser opportunities for labor in the cities.

Commendable efforts are being made to check emigration from Ireland, as the terrible drain on the country's population is apparent everywhere, especially in the country districts, where it is sometimes difficult to procure labor of the requisite kind. The department of agriculture for Ireland has begun the development of agricultural and technical and manual training, and it is hoped that the knowledge so acquired by the people will secure for them a competency which they now go to seek elsewhere.

AMERICAN PETROLEUM IN GERMANY.

Consul-General Guenther, of Frankfort, reports as follows on the war waged in Germany, by opposition interests, on American petroleum:

Regarding an order issued by the Saxon minister of the interior concerning the business orperations of the company, the German-American Petroleum Company, of Bremen, recently addressed a communication to him, in which it denied various allegations and charges brought against its mode of doing business and its purpose of monopolizing the petroleum trade of Germany. The Saxon consulate at Bremen supported the company's memorial to the minister, stating that the German-American Petroleum Company when starting at Bremen was much assailed, but overcame unfriendly opposition and obtained general commendation by its business policy, which lowered the price fluctuations and improved the selling conditions of the retail dealers in oil.

The minister sent letters of inquiry to the chambers of commerce of Saxony to gain their expert opinions on the mode of operation, etc., of the company. The chamber of commerce of Chemnitz, after consulting a number of oil dealers in its district, replied by giving the views of the dealers and its own opinion, summarized thus:

"The interests of the German petroleum business require that the progress and doings of the German-American Petroleum Company be energetically resisted. The chamber therefore prays the royal ministry to take such action as will inhibit, as much as possible, the expansion of the company's business in Saxony. This can best be done by not allowing the company to keep tanks and storage rooms on fiscal territory (railroad depots), and, in order to strengthen German competition against this company, to give preferential freight rates to Russian and Roumanian petroleum, so as to render the importation of these oils easier. Concerning the latter point, this chamber some time ago recommended it to the managing director of the Saxon State railroads, and that authority has taken action upon it."

In view of the foregoing, it is interesting to note what the chamber of commerce at Augsburg, which represents the Bavarian province of

Schwaben and Neuburg, says in its annual report to the royal ministry of Bavaria:

"The price of American petroleum has considerably declined. This is mainly due to the lively competition between American and Roumanian oil-importing companies. The company representing the Roumanian oil interests has introduced here the street-tank system and made efforts to get our wholesale dealers to buy Roumanian oil exclusively, but for various reasons they have refused to do so. The fact that the American oil has always maintained its good quality, to which the consumers have become accustomed, and that the Roumanian oil does not meet their wants, is presumably the cause for the refusal on the part of our wholesale dealers."

In a former article I have reported a like attempt to that of the Chemnitz Chamber of Commerce to induce the Government authorities controlling the railroads to discriminate against American petroleum by giving lower freight rates to Russian and Roumanian oil. Our exporters of petroleum were admonished to see to it that these unfriendly attempts be thwarted, or, if already successful, that Americans ask that their products also receive minimum freight rates to which, under "the most favored nations" clause, the products are entitled.

INDUSTRIAL PROGRESS IN BOLIVIA.

Concerning industrial progress in Bolivia, Consul Mansfield, of Valparaiso, writes:

The recent commercial treaty between Chile and Bolivia, and the announcement by the Chilean Government of its purpose to construct a railway through the provinces of Tacna and Arica into Bolivia, has apparently given an impetus to commercial and industrial interests in the latter Republic, which is manifest by definite plans for extensive railway construction and road building by the Bolivian Government. This increase in transportation facilitates, through a country rich in mineral and other resources, in territory difficult of access, will be the means of developing latent resources and giving to Bolivia a commercial importance heretofore unknown. The building of railways and the development of commercial interests in Bolivia will also result in substantial benefit to Chile, as Bolivia has no coast territory, and all products exported must pass through Chilean territory and be embarked from Chilean ports.

The El Diario, of La Paz, publishes a list of the roads proposed to be built and estimates their length at 4,339 kilometers (2,695 miles). to cost in the aggregate 200,075,000 bolivianos, equal to $84,031,500 United States currency.

The ability of Bolivia to carry out this extensive transportation scheme is due to the fact that among all classes there seems to be a unanimity of opinion that the money received from Brazil under the Acre treaty should be applied to railroads. Not many years will elapse before foreign capital will seek investment in Bolivia. If peace and order be observed, as at present, the country will forge

ahead at a satisfactory rate of progress. Many causes are at work to impart a greater degree of stability to the Government and to the institutions of the country. Foremost among these is the agreement recently entered into with Chile, which puts an end to the mistrust and bickerings of a quarter of a century and brings to Bolivia munificent gifts of money and railways.

Road making in Bolivia, owing to the peculiar configuration of the country, has many difficulties. The most important roads have a total length of 2,297 kilometers (1,426 miles). In the loftiest parts of the Andes the highways are little more than goat paths which have been cut by Indians for the traffic of their beasts of burden. Along these mountain paths droves of mules, donkeys, and llamas are continually going and coming, carrying from the interior tropical fruits, cocoa, yungas, coffee, etc., and taking back from La Paz and other towns along the routes flour, groceries, alcohol, etc. The internal trade carried on in this manner will be largely increased once the country is tapped with railways.

The Government buildings called "postas," at intervals along the way, form a peculiar feature of travel by road in Bolivia. In these post houses travelers are provided, free of charge, with a place wherein to rest and to sleep, and, for a trifling charge, with food for themselves and with forage for their animals. Here, too, travelers can obtain relays of mules. The charge for these relays is 20 cents per league (about 3½ miles) per mule, and 1 real per league for the Indians who go on foot, as many do, keeping ahead of the mules no matter at what pace the animals may travel—8, 10, and even 20 Bolivian leagues in a day (35 to 70 miles).

It is easy to imagine the radical change that would be wrought by railways in a country where such primitive customs prevail. Bolivia is a new country waiting to be opened to the commerce of the world. Until twenty-five years ago it resisted the introduction of the electric telegraph, but now it is clamoring for railways and for more and more telegraph wires. In exchange it offers some of the most valuable, useful, and necessary natural products to be found on the globe. In the opinion of those who know it best, Bolivia is one of the most promising fields for investment in industrial development of any of the South American Republics.

WORLD'S SILK PRODUCTION.

Consul Covert, of Lyon, writes that the world's silk production in 1904, as gathered from statistics just published by the Lyon Silk Syndicate, amounted to 20,268,000 kilograms (44,682,833 pounds), against 18,135,000 kilograms (39,980,621 pounds) in 1903. The Italian and French crops showed an increase of 1,525,000 kilograms (3,362,015 pounds), and the increase in Japanese exports was 927,000 kilograms (2,043,664 pounds). The crop in the Levant showed a falling off of 344,000 kilograms (758,382 pounds). The following are the figures in detail:

The world's silk production, 1903 and 1904.

Geographic division.	1903.	1904.
	Pounds.	*Pounds.*
Western Europe	9,613,800	13,044,618
The Levant and Central Asia:		
Brusa and Anatolia	1,159,615	1,102,300
Syria and Cyprus	1,124,346	1,036,162
Saloniki and Adrianople	546,741	507,058
The Balkans	299,321	308,644
Greece and Crete	132,276	132,276
The Caucasus	881,840	793,656
Persia and Turkestan (export)	1,432,990	939,155
Total, the Levant and Central Asia	5,577,629	4,819,251
Exports from the Far East:		
Shanghai	9,356,332	9,590,010
Canton	4,783,276	4,629,660
Yokohama	10,158,797	12,202,466
Calcutta	540,787	396,828
Total, the Far East	24,789,192	26,818,964
Grand total	39,980,621	44,682,833

JORDAENS EXHIBITION AT ANTWERP.

Consul-General Howe, of Antwerp, writes:

The most important event of this year of national jubilation at Antwerp will be the exhibition of paintings of Jacques Jordaens, to be held in the Royal Museum of Fine Arts, in the same manner as the Van Dyck exhibition in 1899. The success of the Van Dyck exhibition surpassed all expectations and was talked of in artistic circles all over the globe.

Jordaens is considered one of the glories of Flemish art. He was a colorist par excellence, fully imbued with the customs and traditions of his race, which he immortalized. The painter was born in Antwerp in 1593 and died in his native city in 1678. He was a pupil of Adam van Noort, whose daughter he married. He began his art at the Academy of St. Luc in 1616. It is an error, common to many writers, to say that he was a pupil of Rubens—he was not even a collaborator of that great master—although he allowed his work to be greatly influenced by Rubens. Jordaens painted for the King of Sweden, and in 1652 went to The Hague, called thither by the Princess Amelia de Solm, for whom he decorated the famous Huis ten Bosch, where the Peace Conference was held in 1899. In this palace is his largest picture, "The Triumph of Frederick Henry." He also worked for makers of tapestry in Brussels. The chief feature of his work, however, is its great quantity of religious and popular subjects, family portraits, and scenes. He is most brilliant in his family dinners and concerts, where the table is loaded with viands and fruit and flowers; where pretty women, notably his wife Catherine, sing and laugh and children play. His great works are scattered over Europe—in the Netherlands, France, Austria-Hungary, Denmark, Russia, throughout Belgium, and in England. In the allegorical portrayal of history Jordaens is reputed as magnificent. In his mythological works he abandoned himself to the fire of inspiration and abundant sensuality.

His Majesty King Leopold has allowed the committee to announce that the exhibition is to be held under his patronage and the Count of Flanders has accepted the honorary presidency of the "Comité d'Honneur." Already a great number of pictures have been promised, and include all those in the various churches and museums of Belgium. The Duke of Arenberg has offered to loan his collection, and the foreign committees give promise of splendid results. The "Comité d'Honneur" includes, besides the Count of Flanders, the Archbishop of Malines, several of the cabinet ministers and ministers of state, the governor of the province of Antwerp, and the Duke of Arenberg. The president of the executive committee is Mr. Van Rijswyck, mayor of Antwerp, and the committee is composed of leading artists, senators, deputies, university professors, etc.

The nations represented by national corresponding committees are the Netherlands, France, Great Britain and Ireland, Austria-Hungary, Sweden, Denmark, and Russia.

The exhibition will be open from August 13 to October 1, 1905.

REPORT OF BRITISH TARIFF COMMISSION ON THE COTTON INDUSTRY.

Consul Moe, of Dublin, transmits the following articles from the Dublin Irish Times:

The report of the British tariff commission demonstrates the unequal conditions under which textile industries are laboring in Great Britain at present, and brings out the difficulties of competing with foreign countries. To the end that these difficulties may be ameliorated to some extent, it has proposed a series of suggestions for the guidance of manufacturers and legislators. The findings of the commission are published in the Dublin Irish Times of June 6, 1905, as follows:

"The tariff commission on June 5 issued its report upon the cotton industry of the country, which has been the subject of exhaustive inquiry by the special committee on textile industries constituted by the commission. The committee examined a large number of witnesses, considered statements made in writing by over 200 merchants and manufacturers, and investigated returns made by the leading members of the trade on the condition of the industry, besides considering the statistics bearing on the subject issued by the British and foreign governments. As the result of the committee's work the commission finds that—

"1. Important branches of the cotton industry have declined, while others are stationary. On the other hand, fine spinning has increased. Some new branches have been established, and there is at present an expansion due to transient causes.

"2. The industry as a whole is, however, practically stationary.

"3. This stationary condition of the industry is due to the rapid growth of the cotton industry of other countries and their economic policy, especially their tariffs.

"4. In recent years irregularity of employment arising from these conditions has been greatly increased by want of cotton. This want of cotton was caused by shortage of supply and other economic causes

arising from the relative position of the cotton industries of the United Kingdom and foreign countries, combined with the policy and methods of the latter. The difficulties with regard to raw cotton are likely, in the existing conditions, to recur, though they might, and should, be diminished by immediate steps for the encouragement of cotton growth within the Empire.

"5. Competition of foreign countries has hitherto been only slightly felt in the British home trade, except in regard to certain classes of finished goods.

"6. High tariffs of foreign countries have restricted the export trade of the United Kingdom by excluding British products from the markets formerly supplied by us, but now supplied by native industries. These tariffs further enable foreign countries to compete successfully and occasionally 'dump' in neutral markets.

"7. Restriction of the export trade has increased the severity of the competition in the home trade, but that competition has been rendered less acute by the production of imitations in cotton of other textile fabrics.

"8. While the trade with the Continent is declining or stationary, trade with the British colonies and dependencies is increasing, and has been encouraged by the colonial preferential tariff.

"9. While the home market shows no sign of permanent and substantial increase, foreign competition in the home market of an unfair character has not so far assumed such proportions as to call for remedial measures, except in regard to certain finished products.

'10. No considerable expansion of trade in cotton goods can be looked for with those foreign countries which manufacture for themselves and impose tariffs. In existing conditions the decline which has commenced is likely to become more marked, but a moderate reduction of foreign tariffs would do much to increase the volume of our trade. Such reductions can only be secured by using a general British tariff to obtain concessions from foreign countries.

"11. In regard to neutral markets some decline of trade is, under existing conditions, unavoidable. This decline may be postponed, and perhaps prevented, by remedying the adverse conditions of competition between the United Kingdom and foreign countries. These conditions are largely the result of the tariff policy of foreign countries, and tend to increase costs to the British manufacturer by the restriction of his output, and his consequent inability to keep his machinery running full time.

"12. British colonial markets are capable of almost indefinite expansion, and, in our opinion, the adoption of a satisfactory scheme of preferential arrangements within the Empire would secure the largest proportion of this growth for British trade.

"The commission suggest the following provisional scale of duties for a general tariff: Raw cotton, free; yarns and twists of all descriptions, free; cotton tissues, gray, free; other cotton tissues and manufactures, duties in no case to exceed 10 per cent."

MALTESE GOATS.

Consul Grout, of Valetta, writes:

I have been receiving many inquiries from persons in the United States concerning the Maltese goat. Judging from the extensive information desired by the writers, it would appear that there is a serious disposition to import them. I submit herewith a report embodying statements made by me several years ago in response to inquiries then made and much new material. For years the Maltese goat has been regarded in all parts of the world by those interested in raising goats as a very superior animal, not only on account of its milk, but as a breeder. There must be something in the climate of these islands that makes this possible, for pasturage is very scant, and the herds which are driven out twice a day seem in some way to find nutriment in places where an ordinary cow would grow poor and pine away. If there is one thing receiving good care at the hands of the Maltese, it is the goat, and there are stringent laws in force requiring cleanliness and attention to its welfare. The population of these islands is about 203,000, and almost wholly dependent upon goats' milk. A few cows are kept here, but their milk is not regarded with favor, owing to lack of pasturage. In addition to the limited herbage, the sustenance of the goats is added to by feeding them with carob beans and mixed cotton seed and bran, the extra feed costing about 7 cents per day per goat. It would cost much more to feed cows to produce even fairly good milk, which would render the milk too expensive for general use. For this reason such cows' milk as we have is of very inferior quality, and very limited in supply.

It has been estimated that there are about 12,000 goats on the islands. It would be difficult to give the exact number on account of their frequent shipment to Tunis, Italy, and other Mediterranean countries. It is an old adage here that no matter how much better a Maltese goat may be fed and pastured elsewhere, it does not thrive as well as at Malta.

There are two varieties of the goat, the short and long haired. In color they are brown or white, about equally divided. As a rule they are dehorned early. The milk produced is of very superior quality, perhaps not as rich as that of an ordinary cow, and practically without cream, but, nevertheless, very acceptable for table and cooking purposes. The average height of the goat is 2 feet 6 inches, and its weight often reaches nearly 100 pounds. No special attempt seems to be made by the herder in the matter of preserving or refining strains, but, nevertheless, the Maltese goat seems to keep up its reputation for appearance and milk production. As a rule the Maltese goat does not breed before it is 15 months old; and generally breeds once each year. It is not milked within three months of breeding time and will produce milk until it is 11 or 12 years old.

Very few things are essential to care for the goats. They are kept in herds of from 6 to 30 animals, and one attendant often has the full charge of and milks the latter number. It is an ordinary sight here to see the herds driven through the principal streets and milked at the doors of residences where milk may be required. This occurs not only once but two or three times each day, and for this reason house-

holders do not purchase their day's supply at one time but in small quantities, as it is required. Goats' milk is sold at from 8 to 10 cents a quart. The small quantity of cows' milk sold is bought by a few English residents, and costs about 8 cents a quart. Goats' milk is not used here for cheese or butter making. There is a variety of fresh butter and a peculiar kind of cheese produced in the islands, but it is made of sheep's milk. Sheep, however, are very limited in number, and need hardly be taken into consideration. The meat of kids, after inspection by the health authorities, brings about 10 cents per pound. The law requires that they be at least 1 month old before slaughter, at which time they are to weigh not less than 12 pounds. Goatskins are sold with the hair on, and skins bring from 18 cents each upward. The average yield of the Maltese goat is from 2 to 2½ quarts of milk daily. Its keeping quality is about the same as that of cows' milk, and it is not uncommon for it to keep for twenty-four hours.

The average price of a fair Maltese goat is $15. Some of extra merit bring much more. Most of the persons writing to me desire to know the cost of shipping from here to the United States. This is rather a difficult question to answer, inasmuch as arrangements would have to be made at the American port rather than here. Another thing that should be considered is that it would prove a very expensive, and perhaps useless, matter to ship them singly or in very small numbers. Facilities are very limited on steamers leaving Malta for the United States. I believe, however, that if, say, 100 goats were sent from here to Palermo to be there transshipped to the United States, the cost might be estimated at about $1,750. This would include the cost of the goats and the freight. Food sufficient to last the herd from Malta to the United States could easily be shipped at this port upon departure. I believe that in estimating the cost of food 7 cents per day per goat might safely be reckoned.

TOBACCO CULTURE IN IRELAND.

Consul Mahin writes concerning tobacco culture in Ireland:

According to a correspondent of the Nottingham Guardian, promising results have followed an experiment in the cultivation and cure of tobacco undertaken by Colonel Everard, of Randlestown, County Meath, on behalf of the Irish department of agriculture. The experiment was extended to 20 acres, and a report recently issued puts the total yield at 8,800 pounds, or 440 pounds per statute acre. The tobacco, we are told, has been inspected by several leading tobacco manufacturers, and samples have been submitted to experts both in this country and America. In every case a very favorable opinion has been expressed as regards its size, texture, color, and burning qualities. The opinion of experts in America to whom it has been submitted is that it is first class.

The cost of growing the crop is shown to be, approximately, $85 per acre. Taking the average yield to be 440 pounds per acre, the refund of one-third of the duty, which the grower is allowed by the treasury, amounts to $107.06 per acre. The crop has been variously valued at from 8 to 12 cents per pound, and assuming the value is 4d. (8 cents)

per pound, gives a return of £7 6s. 6d. ($35.65) per acre. Based on these figures the report states that the total net profit per acre amounts to £11 16s. 8d. ($57.58).

The correspondent points out that various facts make the actual results better than these figures indicate; that of the 20 acres placed under tobacco only one-third was of a type which seems capable of producing a maximum yield, and only 2 acres of the variety found to give the best results were planted. When this and other points are considered, such as the cultivation and handling of the crop by inexperienced workmen, there seems no reason to doubt the conclusion arrived at, that with the experience gained last year a crop of tobacco grown on suitable land should reach 1,000 pounds per acre.

The report concludes:

"This result, after deducting the interest on barns necessary for the curing and the handling of the leaf, and the cost of cultivation, would leave a profit so much in excess of that obtainable from any other crop, that farmers might be induced to till tobacco more extensively, and the increased employment thereby given would tend to stem the tide of emigration from Ireland. A great advantage also in the cultivation of tobacco is the manner in which it fits into the routine of farm work, the planting being done between the turnip sowings and the cutting of the early meadows, and the cutting and housing between the corn harvest and the raising of the potato crop. The stripping, sorting, and prizing can be carried out at any time during the winter, and thus provide much-needed employment during a time when remunerative labor is difficult to find for farm hands, especially women and boys."

SANATORIUM FOR TUBERCULOUS PATIENTS.

Consul Van Buren, of Nice, writes concerning a tuberculous sanatorium in France:

In April, 1901, M. Millerand, then minister of posts and telegraphs, conceived the idea of maturing a scheme by which a sanatorium might be established for the employees of that department, among whom tuberculosis is the cause of a very high mortality. The minister of finance, however, when the matter of governmental aid was broached, informed his colleague that owing to the deficit in the budget the question could not be considered.

Later, Dr. Auguste Geoffroy proposed that the "Assistance Mutuelle Générale des Employés des Postes, Telegraphes, et Téléphones" should itself undertake the scheme, by asking authorization to organize a lottery. This was done, and it produced a sum of $12,000. Doctor Geoffroy then offered an extensive property, situated between Draguignan and Grasse, in the Department of the Var, for the sum of $40,000, payable, by installments, in twenty years. The building already existing was opened in October, 1904, and contains accommodation for 30 patients. The estate produces sufficient wine for the use of 100 patients, pasture for 12 cows and 2 horses, an abundance of olive oil, and vegetables and fruits for the year's supply. The sanatorium is in charge of a resident physician and of an experienced matron, and the finances are looked after by a delegate of the association.

The total cost of board is 77 cents per day for each person. For members of the association board costs: For men, 67.5 cents, and for women 53 cents per day. Members of the association pay an annual subscription of 58 cents. The association makes up the difference between the cost of board and the terms mentioned. Efforts will soon be made to obtain governmental aid for the extension of the scheme.

NEW BANK IN COSTA RICA.

Consul Caldwell, of San José, writes:

A new bank has been established in San José, to be known as the "Banco Comercial de Costa Rica," with a capital of 1,000,000 colons ($465,000). The founders are Messrs. Thomas Scott and Emile Challe, prominent business men of this city. Each of these gentlemen has, for a number of years past, conducted a private banking business, and both have turned over all their business to the new bank. The capital stock has been fully subscribed by prominent men, both Costa Ricans and foreigners, of San José and other cities of the Republic, and by capitalists of London, Paris, Bordeaux, Antwerp, New York, and Boston.

The bank is chartered under the laws of Costa Rica to engage in all kinds of banking business, with special reference to buying and selling exchange, discounting commercial paper, and making collections. It has established connections in London, Paris, Hamburg, New York, New Orleans, and San Francisco, but is prepared to draw on all commercial centers of the world. By the banking law of Costa Rica any bank with a paid-up capital of not less than 1,000,000 colons ($465,000) may emit bills to the extent of its paid-up capital, provided a gold reserve is kept on hand equal to not less than 50 per cent of the amount of bills emitted. The new bank will not at present emit bills, but as its capital is the 1,000,000 colons required by law, it can at any time avail itself of this provision and become a bank of emission.

The charter is for ten years, but it may at any time before the expiration of that period, by vote of the general meeting of shareholders, be extended for another ten years; and in like manner for successive periods of ten years. The capital may be increased to 1,500,000 colons ($697,500) by resolution of the board of directors, and to 2,000,000 colons ($930,000) by a vote of two-thirds of the votes represented at a general meeting of shareholders. The new bank opens for business June 1, 1905.

EUROPEAN PARCELS-POST TRADE WITH PERU.

Consul Gottschalk, of Callao, writes concerning the increased European-Peruvian trade through the parcels-post:

I had occasion some time back to report upon the changes being brought about in Peruvian retail commerce by the parcels-post treaties between this country and several nations of Europe. I stated in the course of that report that it was becoming the fad or fashion in Lima, especially among women, to order in this way from abroad clothing,

shoes, fancy goods, etc., and I recommended that the attention of our Post-Office authorities be invited to the advisability of providing American manufacturers and exporters with some such means of introducing samples and small lots of goods into this country.

I have now to report as the result of my more recent observation a constantly growing increase in the number of parcels-post importations from Europe, to such an extent as to necessitate the creation of a special department in the Lima post-office to examine and assess such importations. What is still more interesting is that a number of firms of customs agents and brokers are now sending out circulars broadcast, in which they describe themselves as ready to serve their customers in the matter of ordering goods from Europe by parcels post, advancing the money for customs duties on the same, and, if desired, ordering at their own cost and collecting from the customer only on delivery of the goods.

DECREASING BIRTH RATE IN FRANCE.

Consul Haynes, of Rouen, sends the following valuable and interesting statistics concerning the decreasing birth rate in France:

There is no more worrying, persistent question in French economy than that of depopulation. Nothing is so vexatious to the ambitious Frenchman as the fact that in Germany there are 600,000 more births annually than in France; nothing more vexatious than the remark of Count Moltke: "Every year by our birth rate we gain a battle over France."

The way in which the nightmare of depopulation has stalked in upon every census sheet for the last hundred years is shown by the following: In 1800 the population of European nations was in round numbers 98,000,000, of which 26,000,000 was French; in 1900 the figures were, respectively, 343,000,000 and 38,000,000. Thus France had 26 per cent of the population of Europe one hundred years ago and now has only 11 per cent of it. At one time French was spoken all over the world; to-day it is the language of 45,000,000 people, while German is spoken by 100,000,000 and English by nearly 150,000,000. The following table shows the development of the population in the principal countries of Europe during the last half of the last century:

Population of the principal European countries in 1850 and 1900.

Country.	1850.	1900.	Increase.
France	35,260,000	38,961,000	3,701,000
Great Britain	27,369,000	41,484,000	14,115,000
Germany	35,397,000	56,345,000	20,948,000
Austria-Hungary	30,727,000	45,314,000	14,587,000
Russia	66,714,000	128,893,000	62,179,000
Italy	23,617,000	32,450,000	8,833,000

It might be added that in the same period the population of the United States rose from 23,191,876 to 76,303,387, an increase of 53,000,000, or 14,000,000 more than the present population of France. In other words, the population of the leading Republic of the New World, which was 12,000,000 less than that of France in 1850, is at present double that of the leading republic of the Old World.

Of the total population of the great European countries in the seventeenth century France possessed 38 per cent. In 1789 she had 26,000,000, or 6,000,000 to 7,000,000 more than in 1698, much of which increase was occasioned by the annexation of Lorraine in 1766 and of Corsica in 1768, but as much by the regular and natural fecundity of the inhabitants. Until 1850 France had been, in point of population, the first of the great European nations, afterwards the second, but to-day the sixth, with Italy closely following and threatening to surpass France and leave her the seventh and last.

The following shows in round numbers the average yearly increase in population of five leading nations of Europe:

Average yearly increase in population of five leading European nations by decades from 1850 to 1900.

Country.	1850 to 1860.	1860 to 1870.	1870 to 1880.	1880 to 1890.	1890 to 1900.
France	93,000	23,000	130,000	73,000	46,000
Great Britain	156,000	256,000	340,000	285,000	375,000
Germany	235,000	307,000	442,000	419,000	692,000
Austria-Hungary	181,000	304,000	180,000	348,000	395,000
Italy	108,000	178,000	166,000	200,000	200,000

The excess of births over deaths in 1899 was: France, 31,321; England, 422,156; Germany, 795,107; Austria-Hungary, 530,806, and Italy, 385,165. In 1900 the excess in France was only 20,330. In speaking of this great decrease in births and of the rapid increase in the countries surrounding France, a celebrated French lawyer recently remarked: "Our country is possessed of a deadly canker which is consuming, little by little, its influence, its expansion, and its brilliancy, until finally in the near future we will find we no longer count in Europe."

In this connection the following figures concerning the number of children in French families are interesting:

Number of childless families in France and specified number of children to other families.

Number of children.	Number of families.	Per cent.
None	1,808,839	16.68
One	2,638,752	24.33
Two	2,379,259	21.94
Three	1,593,387	14.69
Four	984,162	9.07
Five	584,582	5.39
Six	331,640	3.06
Seven	289,771	2.67
Unknown	234,855	2.17

The first to signal this peril of France was Léonce de Lavergne, apropos of the census of 1856. From the Restoration until 1846 the average annual increase of the population had been about 200,000. From 1846 to 1856 it dropped to 60,000. Later, Toullemont exclaimed of the decreasing birth rate: "Is it possible that this has come to such a point that it is already a law in the greater portion of France, which foreigners throw into our face as an outrage!"

In 1882 Charles Grad, an eminent German politician, published an article comparing the increase of population in France and Germany from 1820 to 1880. From 30,000,000 France passed to 36,000,000,

while Germany from 26,000,000 passed to 42,000,000, not counting Alsace-Lorraine. The article gave the number of years required for the countries of Europe to double their population. The figures were as follows: Russia 50, Norway and Sweden 52, England and Prussia 55, Belgium 79, Italy 84, Spain 104, Austria 110, France 183.

The words of Mr. Bertillon are very emphatic: "Our country is threatened with an irremediable fall. The sterility of marriages threatens to place France in an imperceptible corner of the great Anglo-Saxon universe." In fact, at present, France is flooded with literature in regard to the subject. The most learned are asking what in a few more years is to become of France. Bills intended to remedy the evil have been introduced into Parliament; the subject has been debated from one end of the country to the other; societies have been formed, and almost every conceivable means employed as a remedy; but in spite of all efforts, individual and collective, theoretical and practical, the population of the country remains stationary.

The National Alliance for Increasing the French Population was founded in 1896. Its object is "to point out to everyone the danger with which depopulation threatens France, and to introduce fiscal measures, or others, to augment the number of births." The general principles of the Alliance are as follows:

"1. France is on the way to become a third-class power.

"2. This tendency is due to a diminishing birth rate.

"3. It is the duty of every man to contribute to the perpetuity of his country as much as it is his duty to defend it.

"4. To bring up a child is a duty to the State equivalent to paying taxes.

"5. To acquit sufficiently this duty every family should have at least three children.

"6. Therefore, families with more than three children should be exempt from taxation.

"7. The laws of inheritance and the methods of dividing property should be modified, since the present laws are not conducive to large families.

"8. Lastly, infants should be protected in order to diminish the mortality of the new born."

The Alliance has worked incessantly to establish its principles, and on account of its efforts the question in 1900 was carried before the Senate. As a result this body appointed an extra parliamentary committee to study the subject, and upon its report in 1902 a larger, more important extra parliamentary committee was appointed to examine exhaustively every possible phase of the "momentous question." This committee meets from time to time, but as yet has taken no definite action.

CAUSES.

It has been said that one of the chief causes of the comparative depopulation of France is the neglect of religious practices and beliefs. The deterioration in the birth rate is not manifest in the poorest Departments, but in Burgundy and Normandy, from a material point of view the most prosperous; Brittany, on the contrary, is fecund, as are Auvergne, Aveyron, and other sections of the center. The people seem to be fecund according as they are faithful to the traditions of the old French families and the faith of their fathers.

Others attribute the cause to the lack of material prosperity. The soil, say they, no longer nourishes the country. Agricultural and industrial crises have their influence upon population. The family in its struggle for life diminishes its expenses by diminishing its members. May it not be rather that the decreased number of children causes the crises? Certain it is that a father of six children will work harder and longer, and accomplish more than a man with no children, and will hence add far more to the material prosperity of his country.

Paternal selfishness is given as another cause. Many fathers, who would have been able to live in ease if they had a limited number of children, are compelled to labor very earnestly to provide for the family. Then there is the more profound and generous sentiment—paternal love—which prefers one child well clad than six or eight in rags. But the present financial condition of France, necessitating heavy taxes, in the majority of cases outweighs paternal love, and a disregard of the injunction "increase and multiply" is preferred to poverty. The debt of France, including the debts of the communes, the Departments, Paris, and the floating debt, amounts to about $6,000,000,000. In 1874, after the liquidation of the war of 1870, the ordinary expenses of the Government amounted to $493,000,000. Twenty-six years later, all years of peace, the expenses were $682,641,000, an augmentation of $189,641,000. The average increase of the ordinary expenditures for the last quarter of a century has been nearly $7,000,000 annually. France supports the greatest budget in the world. The net interest upon its debt in 1874 amounted to $190,105,000, since which time, by the conversion of bonds, it has been lessened by $20,844,000. To-day, however, instead of being $20,844,000 less, the net interest on the debt is actually more than $223,000,000.

Naturally, the wheels of industry turn slowly and the profits are small beneath the burden of taxes that such an interest demands. There is a poll tax, a rent tax, a dog tax, a land tax, a vehicle tax, a door and window tax, an octroi tax, besides two kinds of customs duties on all foods. In 1876 the average tax for each Frenchman was $15.25. In 1902 it was $18.50. At present, if the departmental and communal taxes are added, it amounts to more than $25. In Russia the average is $7.14, in England $9.65, in Italy $10.04, in Germany $11.19, and in Austria $12.35. Such burdens more than all else discourage fathers from adding expenses in the way of more mouths to feed and mor backs to clothe.

Further, military service keeps back marriage. Mr. Yves Guyot, ex-minister of public works, says "it is one of the chief elements in the causes of the arrest of the population of France."

In some parts of France the eldest son theory exists. In speaking of this, Mr. Guyot says further:

"The eldest son inherits the land, such as it is. There will be no fear of having to share it with others; no danger of its being divided into parts. The heir finds himself in a position equal to that of his parents. This is a dream of all good French parents, and they are numerous. Their intention is to protect their children against all the contingencies of life. The child is brought up to hate and fear competition. He thinks a great deal more of his position already acquired and that he is born into than of any position he might win for himself. When later

he marries he takes to wife another acquired position; he must have a 'dot,' a fortune that will enable him to keep up his proper position and rank in the world. Such as these think more of conserving than of acquiring—of keeping what they have inherited than of striving after anything further. They take fright easily, and stand in dread of anything that might compromise them. Protected by their parents when young, they demand protection from the State when they are grown up. They become land owners, magistrates, officers. They will receive modest salaries, but their future is assured, and they will have a retreat or pension ready for their declining years. As a result they will not allow the even tenor of their lives to be troubled by too many children, the weight of which would endanger the equilibrium of the budget and whose future welfare would be too troublesome a subject to be bothered with."

REMEDIES.

Many have asked if there are any remedies for the decadence in births, but a great many more have made suggestions. Fiscal reforms have been preached. It was Renan who once remarked that contemporaneous French society seems constructed as if man was a theoretical being, destined to live alone, without family or relations with other men. Many claim that this is caused to a great extent by the system of taxation. The State, in trying to tax the apparent resources—the exterior signs of wealth—often taxes unjustly. Families seem taxed according to their size. Renters with large families have need of larger houses than bachelors. Taxes being assessed upon the amount paid for rent, it follows often that the former pay greater taxes than the latter. It is the same in regard to the tax upon doors and windows and the octroi, or tax upon articles of consumption.

Mr. Bertillon says that to sustain an equilibrium of population each family should have three children—two to replace the father and mother and one to add to the population or fill up any vacancy by death or emigration. Thus, he argues, the family which does not raise three children does not fulfill its social duty, for lack of which it should pay an equivalent in taxes, while, on the other hand, families raising more than three children should be reimbursed. Several bills have been introduced into the French Parliament having as an object the taxation of maids and bachelors and families without children. The idea of such laws is not new. An edict of 1666 accorded 2,000 francs ($386) to all families with twelve children, and 1,000 francs ($193) to all those possessing six. With the present heavy fiscal burdens there are no resources from which such pensions could now be paid.

Some propose to modify the inheritance laws so as to favor large families. It must be understood that in France a certain per cent of any amount inherited must be paid to the State. Some say that the law should be so changed that 2 per cent of any amount left to an only child should go to the State; 1½ per cent of inheritances left to families of two children should go to the State, and so on with a diminishing per cent as the family grows larger. A law to this effect was voted on by the Senate in November, 1900, and was rejected by only 129 against 99. An act passed in February, 1901, which modified somewhat the old law of inheritance, is favorable to large families; it abolished the tax

imposed upon the whole of the inheritance and substituted a tax upon each individual part. This tax being progressive causes an only child to pay more than three or more children inheriting the same amount. For instance, on an inheritance of 250,000 francs ($48,250) left in a family of only one or two children the tax is 2 per cent; if in a family of three it is 1¾ per cent, and if in a family of five 1½ per cent. The reason is that in the first case the part of the child is about 100,000 francs ($19,300), while in the other instances it is below that figure.

A Colonel Toutée proposes the ingenious method of allowing the only child to receive but half of his inheritance, the other half going to those who would receive it were there no child.

Various methods have been suggested for complete or partial exemption from military service of young men who have several brothers and sisters. Some efforts have been made in this direction by the administration of internal revenue, which accords to fathers of more than three children an increased pension of 60 francs ($11.50) for every such child. The Northern Railway Company also allows each employee, an increased pension for every child above two in his family. In the ministry of marine the gratuities offered at the end of the year are more or less according to the number of children in the family.

The amelioration of infantile mortality is also preached, though much has been done in that direction within the last one hundred years. Within the last century the death rate has fallen from 28.2 to 22.1 for every 1,000 inhabitants. Still, the annual loss is 170,000 children less than a year old.

The restriction of alcoholism is an urgent necessity. In 1900 out of 4,744 sick persons treated in Parisian hospitals more than 2,500 were alcoholic, and out of every 100 consumptives 90 were alcoholic.

AGRICULTURAL AND TECHNICAL PROGRESS OF IRELAND.

Consul Knabenshue, of Belfast, writes:

The department of agriculture and technical instruction for Ireland was created by act of Parliament in 1899, and has an annual endowment fund of £171,000 ($832,171), of which £55,000 ($267,657) is set aside for technical instruction, £10,000 ($48,665) for instruction in improved methods of sea fishing and fish curing, and £106,000 ($515,849) for instruction in agriculture, including stock raising. The purpose of the board is, in the words of its vice-president, "to help people to help themselves."

The annual report of the board for the fiscal year 1903–4 has just been issued. It shows that the fundamental idea of helping self-help has taken a firm grasp upon the local county committees of the board, and that satisfactory progress is being made, especially in technical instruction at Belfast.

The agricultural work is divided into the betterment of methods and the improvement of breeds of live stock. During the year covered by the report the number of selected sires for horse breeding purchased by the department through its county committees was 211, an increase of 19 over the previous year, and for cattle raising 732, an increase of 114.

The most effective of the plans thus far introduced for agricultural improvement is the employment of traveling instructors—the equivalent of the American Farmers' Institute. In certain places there has grown an increased demand for a more regular and fixed course of instruction for the benefit of young farmers, and at seven centers, five of them in Ulster, what is practically a winter school of agriculture has been established in which a regular course of instruction is given in tillage, stock breeding, veterinary hygiene, poultry keeping, and elementary agricultural science.

There are now 30 poultry instructresses at work, and the department distributed 40,875 dozen eggs of pure-bred fowls from 392 stations during the year. There are 14 instructors in horticulture, an increase of 5 since the previous year. Under their direction 170,000 young fruit trees were distributed within the year, and 8,000 kitchen gardens "improved beyond recognition," as the board states.

Energetic work has been done in arousing the farmers to the commercial value of fruit growing. This branch has been much neglected within the past century. In the year preceding that covered by the report four centers were established in localities formerly famous for fruit growing. Last year three additional centers were organized.

The report shows great progress in technical instruction in cities and towns. There were 40,000 pupils in attendance during the year 1903–4. In addition, 8,600 pupils received instruction in experimental science, etc., in secondary day schools supported by the science and art grants. In centers where three or four years ago no instruction of the kind existed, there are now largely and regularly attended schools. The attendance has been maintained and the character of the work improved. Difficulties confronting technical instruction are the lack of suitable buildings and the insufficient preliminary education of the students. Other than local taxation, there is no provision for securing the necessary means with which to build, and the report suggests that Parliament should provide a portion of the funds needed.

MINERAL RICHES OF IRELAND.

Consul Moe, of Dublin, writes:

The Arigna-Dromahair Railway promotion committee are much indebted to the Rev. Joseph Meehan, C. C. of County Leitrim, who, as secretary, has presented to the congested districts board a most exhaustive and interesting report on the subject, which they have in hand.

The report goes to show that there are boundless possibilities for a great mining industry in Ireland. The district from Arigna to Dromahair is rich in coal and iron, and the projected line would cut through the Connaught coal fields, which eminent experts have stated is capable of yielding between 20,000,000 and 30,000,000 tons of coal, said to compare favorably with the best Welsh and Scotch product. Notwithstanding these huge deposits, the total output of coal for 1903 in Leitrim was barely 1,480 tons; in Roscommon, 10,366 tons, and in Sligo, 800 tons—an industry which, if given the aid of railway transportation, is capable of supporting thousands, is not now maintaining 100 persons.

The congested districts through which the contemplated line would

pass are seamed through and through with iron ore of as rich a quality as can be found in the United Kingdom, Cumberland excepted. Yet this iron-mining district, which might be fairly expected to give employment to tens of thousands and develop into a miniature Pittsburg, does not at present support a solitary individual.

AUSTRALIAN IMPORTS FROM GREAT BRITAIN, THE UNITED STATES, AND GERMANY.

Under date of June 10, 1905, United States Consul Albert W. Swalm, Southampton, England, transmits the following extract from the London Daily Mail of June 9:

The United States of America and Germany are not only ousting Britain from her foreign markets, but they are flooding her home markets with goods cheaper than she can make them," said the honorable Senator R. W. Best, of the Australian Commonwealth Parliament, to a number of city merchants and others assembled under the auspices of the Australian Chamber of Commerce at 11 Leadenhall street yesterday.

One point he would give to English merchants was to pack their goods in a closer form and in smaller packages.

British travelers were simply nowhere in comparison with the tenacity and pushfulness of American and German travelers. English merchants were far too conservative. They would not change their methods, measurements, etc., on any account, and the result was the loss of their trade. As an instance of the need to keep up to the changes of the day, he said that the Australian carpenters had found the American hammer better shaped and more suitable to their needs. The Germans discovered this and at once made their hammers of the American shape, and secured a large portion of a trade which they were losing. These were only single items in an almost endless list. It was a host of such things that made Australia buy £25,700,000 [$125,069,000] worth of goods yearly from Great Britain's commercial rivals.

In connection with the foregoing, the following table, showing the imports into the Australian States from the United Kingdom, the United States, and Germany in 1903, is of interest. The statistics were compiled in the Bureau of Statistics, Department of Commerce and Labor, from British official returns:

Value of imports into the Australian Confederation and New Zealand from the United Kingdom, the United States, and Germany in 1903.

Geographic division.	United Kingdom.	United States.	Germany.
	Dollars.	*Dollars.*	*Dollars.*
New South Wales	33,368,744	13,526,923	3,951,598
Victoria	29,091,450	9,616,144	3,888,114
South Australia	9,391,858	1,898,083	1,094,476
Western Australia	12,648,520	3,170,525	1,586,965
Tasmania	2,907,734	572,787	97,330
Queensland	10,078,035	2,277,522	869,157
New Zealand	36,570,554	7,014,573	1,334,881
Total	134,056,895	38,076,557	12,822,521

BRITISH COOPERATIVE FARMING.

Consul Mahin, of Nottingham, writes as follows on the interesting subject of British cooperative farming:

The Agricultural Organization Society is a body formed four years ago to promote reciprocal aid among British farmers, and statements at the annual meeting held this week show that its object is being successfully carried out. The number of branch societies has largely increased and is now 113, embracing 33 counties, while the membership has advanced from 4,500 in 1904 to 6,500 now.

One of the important aims of the society is the cheapening of freight rates, which have been excessively burdensome in this country to the small shipper. This is being done with success by combining farm products in wholesale quantities. General working expenses have been reduced and in some cases the prices of products have been increased through the harmonious working of the society. It also enables members to buy in wholesale quantities from one central point instead of dribbling out small orders to a large number of producers. Farmers can buy their supplies and implements at wholesale prices, and this is considered so important that prophets are found who see in it the redemption of British agriculture from the low estate to which it has declined.

Various schemes for developing and broadening the society's work are proposed, notably one touching dairying. At present the butter produced on different farms does not blend, and the product is, generally speaking, without a standard. The society proposes a central factory, where milk is to be sent and wherefrom a product of standard quality marketable at the highest possible price for butter would result. The seller would thus be assured of a buyer in the factory, and the consumer would be assured of a quality on which he could safely rely.

Through the efforts of this society motor transports have been placed on some country roads by railway and other companies and are carrying farm products at rates satisfactory to the producers. It is hoped to extend these transports generally over the Kingdom.

DRUG TRADE AT MALTA.

On this subject Consul Grout writes:

For a small place, Malta is well provided with drug stores, in fact, almost out of proportion to the population. As a rule, the stores are kept in an up-to-date manner, and much enterprise is shown in the completeness of stocks and fittings. Most of their supplies come from England, France, and Italy, but many of their medicines, proprietary articles, and counter novelties are of American origin. Most of these reach here by way of English agents. There is much competition, and small profits are the rule. Now that we have an established direct connection between Malta and New York, it seems to me that the variety of American goods might be more easily increased if our houses were to deal direct.

Recently I have been approached by local druggists desiring the addresses of various New York wholesale druggists. If merchants

interested in this trade will write me and, where possible, will inclose price lists and catalogues, I will, with pleasure, see that they are placed in communication with the proper parties. One druggist in particular, who handles respectable quantities of American goods every year, but who obtains his supplies from England, desires to deal direct with a New York wholesale house. If he succeeds he will doubtless be able to make quite a saving in the way of expenses. I have lists of the prominent drug stores here which I will furnish to such American houses as may desire them. Quite a large trade is done in counter goods, and there is always a demand for novelties. There are no wholesale houses here, and fairly large stocks are kept.

PANAMA CANAL AND THE TEHUANTEPEC ROUTE.

Consul Moe, of Dublin, in transmitting an editorial from the Irish Times on the Panama Canal and the Tehuantepec route, writes:

Considerable interest has been aroused in the development of the transcontinental route between Tehuantepec and Coatzacoalcos in Mexico by British capital and enterprise. The British public considers this prospective new route as an additional outlet for their Pacific trade, and are pleased to think that it will be something of a rival to the more southerly canal at Panama. The press discussions have been numerous, but it is only recently that the subject has come under notice in Ireland. The following editorial appeared recently in the Dublin Irish Times, a conservative paper holding a position similar to that held by the London Times in England:

"Panama is to have a great rival in Mexico for the trade which must pass from the East to the West and from the West to the East. Mexico itself is a country of great potentialities, but whether they have been properly appraised in Great Britain is very doubtful. Sir Weetman Pearson, in an interview with a London journalist, gave a few facts well worth pondering over. His statement dealt for the most part with 'the new world's highway.' It is a railway, 190 miles long, which is going to be reconstructed by a company under a partnership arrangement with the Mexican Government. It crosses the Isthmus of Tehuantepec from Salina Cruz, on the Pacific, to Coatzacoalcos, on the Atlantic. When reconstructed it is said there will be no better railway in the world. There have been expended already £2,000,000 [$9,733,000] on the road itself and £6,000,000 [$29,199,000] are being devoted to the ports, which will be perfectly equipped. The railway company has come to an agreement with a steamship company, which is not named, by which the train services will be fed by 11 boats, averaging 10,000 tons. The vessels will sail, of course, in both the Atlantic and the Pacific.

"'This is going to be one of the greatest routes of the world,' said Sir Weetman Pearson, 'and it will divert traffic that now goes round Cape Horn and by the Suez Canal. It will compete, too, with the American transcontinental railways, for we shall be able to convey goods from the Pacific to the Atlantic coast of the United States in twenty days, which is less time than is occupied by the express freight trains of some of the railways.' The Panama Canal will not, he thinks,

injure this big enterprise. The railway with all its appurtenances is 1,200 miles north of Panama and 800 miles south of New Orleans. 'Here, then,' he says, 'is the natural highway to the Atlantic.'

"On paper, at all events, the short line—short for the American continent—with its magnificent ports and steamship services, seems to be a serious rival to the ship canal across the Isthmus. It will be interesting to see how the Yankees will regard its development, for they have sunk much money in what is, of course, a much more formidable undertaking, and it would be too much to expect that they would smile to see themselves cut out of a great commercial advantage which they had hoped they had captured for all time."

CANADIAN GOVERNMENT RAILWAY RETURNS.

On the working of the Canadian government railways, Consul-General Holloway, of Halifax, writes:

The minister of railways has announced that the earnings of the Intercolonial Government Railway for the last year fell $1,500,000 short of expenses, by reason of the bad weather of last winter. The Intercolonial road had an unprecedented experience; in common with the other railroads of the maritime provinces it was practically tied up for two mouths. During that time the expenses of operation were doubled and trebled by storm after storm, and the same agencies which increased the expenses cut down business and financial returns to almost nothing.

On the Prince Edward Island Railway the returns for the first nine months of the present fiscal year, compared with the same period in the preceding year, fell off $11,957, and the working expenses increased $65,289. The cost of removing snow and ice last year was about $11,000, and this year it increased to $32,175.

Besides the great expense occasioned by the storms of last winter, the working expenses of the Intercolonial were increased by a general advance in the pay of employees, the increases in some cases amounting to 50 per cent. This does not mean that the wages of the Intercolonial are now higher than on other railroads, but that they were lower in the past. The increase merely means the leveling up of the Intercolonial rate of pay to the standard of other railroads. The Government is not paying an exorbitant wage, but a fair one. The increase in the wages amounted to about $750,000 in the railway year. As a result of this increase, and a small increase in the number of employees, better results have been obtained from the staff. This is particularly noticeable in the mechanical department, where the number of men was increased 20 per cent and the output of work in some cases increased as much as 100 per cent.

The chief loss in the operation of the Government system of railways was on the Intercolonial road. It was not due to a falling off in the revenue; in fact, the revenue of the system for the first nine months was a few thousand dollars greater than for the same period of the preceding year. Had it not been for the great and largely unexpected increase in the working expenses the increase in the earnings would have gone a long way toward cutting down the deficit on the year's

operations. The minister states that the country must recognize that it has the Intercolonial on its hands as one of the pledges of confederation, and that it must be maintained. The time has come when the country must realize its obligation and that the Intercolonial was not built to be a commercial success, but that military considerations influenced the location of the line on the north shore of New Brunswick. Canada built the Intercolonial over a noncommercial route and bonused a short line competitor to it across the State of Maine.

The people of Upper Canada should remember that if the maritime provinces had the Intercolonial, they on their part had the canal system constructed for their benefit. The rates on the Intercolonial are low, but those low rates have been induced in many cases by water competition. They are not for the benefit of the people of the maritime provinces only; the whole country benefits by them. However, the local rates of the road are from 25 to 80 per cent lower than the local rates charged on railroads in other parts of Canada. Hon. Mr. Emerson said that he thought that in many cases these rates were too low and would have to be raised, not only for the benefit of the road but for the benefit of all interests. He believed the Intercolonial has passed the stage when it was possible to make both ends meet.

RIVALRY BETWEEN CARTAGENA AND BARRANQUILLA.

Of trade rivalry between Cartagena and Barranquilla, Consul-General Snyder, of Bogotá, writes:

The rivalry which has long existed between the ports of Cartagena and Barranquilla, one practically controlled by American capital and the other by English capital, has been powerfully accentuated lately by the publication of an offer by Mr. J. T. Ford, vice-president and general manager of the American companies in Cartagena, unique in its kind, which offers a reduction of 1½ per cent of the duties on all merchandise shipped by way of Cartagena. This peculiarly powerful weapon now in the hands of the American companies is the combined result of the settlement of the claims of the Cartagena companies against the Government of Colombia, by which they were paid $476,425 in "vales de extranjeros" (foreign bonds or custom-house bonds), according to law 27 of 1903, and the ingenuity of Mr. Ford in arriving at a plan for liquidating these vales, which up to this time have been at a great discount, for very little discount, and at the same time using them for the signal advantage of Cartagena.

Owing to the River Company, Railroad Company, and Terminal and Improvement Company, of Cartagena, all being under one management, a contract was entered into with ocean steamship companies for through bills of lading from La Dorada, at the head of lower river navigation, but the breaking out of the late revolution soon disorganized all traffic, and until the settlement of the claims referred to these companies were very much cramped for want of funds, having suffered more than the Barranquilla companies. However, this bill of lading

has become more and more popular lately, and now bids fair to bring all the results it promised in the beginning.

The vales de extranjeros, or custom-house bonds, bear interest at the rate of 6 per cent, and are received at the custom-houses of the Atlantic in payment of 8 per cent of the import duties. The claims of foreigners amount to about $4,800,000, and I should think that in the end $2,200,000 will be recognized and paid. From this it is evident that some time must elapse before the entire amount of bonds can be canceled at the custom-houses. Owing to holders being in need of cash these bonds are sold now at heavy discounts, at times as much as 25 per cent and 30 per cent, and Mr. Ford's companies, being in the business of passing foreign merchandise through the custom-houses, seized upon this idea to save the discount on the bonds and at the same time build up the trade of Cartagena. By his proposal, which is a trial offer for one year, he gives a rebate of 1½ per cent of the duties to clients of companies importing goods; the importers, through this means, only paying 98½ per cent of the customs duties levied by the Government.

Mr. Ford proposes to deposit bonds to the value of $76,425 at Cartagena to meet the import duties as they fall due. The remaining bonds, amounting to $400,000, he intends to deposit as a security in the United States, upon which he will be able to borrow, at the rate of 5 per cent per annum, such sums as he may need for the future development of this enterprise.

Therefore, for the first year, beginning July 1, 1905, the Cartagena companies will have a sum of $76,425 to expend in the payment of customs duties. For this amount to be used, as Mr. Ford hopes it will be, merchandise dutiable to an amount exceeding $750,000 must pass through the port of Cartagena. The management hopes the offer of 1½ per cent reduction will prove attractive enough to merchants to cause their shipments in future to be made through Cartagena. By July, 1906, should this plan prove successful, the Cartagena companies will have satisfactorily disposed of $76,425 worth of bonds, and their $400,000 deposited in Boston will, with 6 per cent interest accrued, be worth $424,000. The first year's results will decide whether the plan shall be carried on further, and how.

These plans will undoubtedly cause a struggle with the Barranquilla people, who will do everything possible to checkmate their competitors. Mr. Ford, however, seems confident of the power of his companies to overcome the Barranquilla competition. The Cartagena route has a preliminary advantage in that all the companies—river, harbor, and railroad—are under one management, whereas in Barranquilla there is no connection between the railway and river companies; therefore, the first step to any concerted action would be some form of amalgamation. This, Mr. Ford thinks, would be very difficult to bring about, in view of the number of Barranquilla steamboat companies existing apart from the railroad and the conflicting interests of the commission merchants there.

The Cartagena companies are already in possession of their claim in "vales de extranjeros" for the carrying on of their scheme, as well as their previously issued subvention bonds (law 42 of 1893), entitled to 5 per cent of the customs duties, and can thus improve their present offer in the event of serious competition; the Barranquilla companies would have to acquire theirs by purchase in the open market.

This offer of the Cartagena companies will undoubtedly affect river freights to a marked degree. The present rates from Cartagena to La Dorada, including railroad and river freights, average $20 a ton. English goods average 16 bales to the ton, and it is safe to reckon American goods the same way. The duties average about $60 per bale, or a total of $960 a ton under the present tariff. The Cartagena companies offer a rebate of 1½ per cent on the duty, or $14.40. Taking this from the charge of $20 for a ton of freight leaves but $5.60 to be charged for transporting a ton of goods from Cartagena to La Dorada, a distance of 650 miles by rail and river. On higher grade goods, as silks, the same calculation holds good, so that the rebate on duties more than pays the freight by rail and river.

This offer of the Cartagena companies is capable of being bettered via Cartagena by the concurrent use of the other series of "vales" known as "pagares del tesoro" (legislative decree No. 37, February 21, 1905), which are entitled to 10 per cent of the customs payments, and of which there has been quite a considerable issue, so that any importer accepting the Cartagena offer can at the same time forward the required number of "pagares del tesoro," which, if he has purchased them at a discount, say, of 20 per cent, will bring him additionally a minimum reduction of 2 per cent, making the total 3½ per cent.

EXHIBITION OF BRITISH COLONIAL-GROWN COTTON.

Consul Mahin, of Nottingham, writes:

An exhibition of British-grown cotton was opened this week at the Imperial Institute, London, under the auspices of the British Cotton Growing Association, and encourages the belief that the United Kingdom is able through its colonies to produce all the cotton needed by its manufactories. This result could not, of course, be immediate, but must await years of experiment and development. The experience of last year, suggesting that the American supply may fail at any time through natural or other causes, has greatly stimulated the efforts to make this country independent.

In the London exhibition cotton culture and manufacture are illustrated from the plant to the finished fabric. The progress made in the British possessions is shown by samples of cotton, photographs, and statistics contributed by different colonies, and these are compared with similar exhibits of efforts made on the same lines by colonies of other countries, notably Germany, France, and Portugal.

Egyptian cotton is particularly prominent in the exhibition, and the exhibits of completed fabrics made of it, especially those subjected to mercerization or other supplementary processes, present features which appear to render it more valuable to the manufacturer than American cotton. The association believes, as the result of recent experiments, that cotton of the Egyptian type can be successfully grown in the British East and West Indian possessions and in most of the British territory in Africa. Questions of cheap transportation may, however, cut a serious figure in all these calculations.

Aside from industrial considerations, the much-mooted question of the value of oriental and tropical possessions is being answered in a

way that gives joy to the British Imperialists. Much of the territory on which cotton culture is now attempted with apparent success has been considered worse than worthless by a large section of the British public, who have bitterly condemned the policy which acquired and held it, and derided all suggestions that it could be made helpful to the industries of the kingdom. The belief is spreading now that the British African possessions will eventually prove a priceless asset. The railroads planned, building, or already built, are expected to give sufficient transportation facilities, and the natives are said to be taking hold of agricultural and other industries with surprising aptitude and interest.

Whatever the ultimate outcome may be, present information from the colonies has a cheering effect, and there is manifestly a growing belief that their resources will minimize future industrial depressions in this country.

IMPROVED METHOD OF TRANSPORTING MEAT.

On the very interesting subject of improved meat-transportation methods, Consul Griffiths, of Liverpool, writes:

A departure in the method of transferring frozen and chilled meat from the steamer to cold storage has been made recently in Liverpool. It has long been realized that the means employed in this city and in other large English ports of loading perishable produce on open wagons and hauling it through the streets from the steamer to the cold storage plant, and thence to the retail shop, with no other protection from the sun or unfavorable weather than an ordinary wagon covering, causes an appreciable deterioration in the quality of the produce. Meat in transit has been affected to such an extent that, I am informed, the insurance companies are refusing to insure it against deterioration, because of the comparatively high temperature to which it is subjected during transportation from the steamer.

To remove this cause of complaint and for the better preservation of the meat, an improved method of transportation has been devised, consisting in fitting up the wagon in which the meat is hauled with an insulated cover. The cover is a light structure, about 6½ feet high. The sides, end, and top are built double, with an outer and inner sheeting of thin boards and a space of about 3 inches between them. This cavity is filled with sheet cork, a medium which has an insulating capacity nearly equal to that of silicate cotton. The bottom edge of the cover is lined all around with felt in order to form a close joint when the cover is placed on the wagon. The sides of the cover are provided with small trapdoors through which perishable goods can be introduced or withdrawn.

This device promises to greatly improve the conditions under which meat is conveyed from ship-discharging berths by protecting it from the sun, rain, and wind. It is now recognized that a strong wind is as unfavorable to meat as a warm wind in transit by road. An opportunity was given of testing the utility and practicability of the insulated cover upon the arrival of the steamer *Drayton Grange* at Liverpool in May. The steamer carried a shipment of lambs and they were hauled from the vessel on a wagon fitted with the insulated cover. Repre-

sentatives of insurance companies and meat companies were present to observe the effect of the use of the covered van. A fact that caused much favorable comment was the maintenance of a temperature of only 32° F. inside the van while the normal outside temperature was 65° F. The lambs when taken out of the van presented a highly satisfactory appearance. They were not softened in the slightest degree, and showed the bright bloom which is a feature of high-class meat in perfect condition. The success of the experiment seems to be assured. It is to be presumed that the insulated cover will be generally adopted by the meat trade.

The shippers of meat in the United States now have the satisfaction of knowing that their shipments while in transit from the discharging steamer to cold storage, and from cold storage to the retail shop, will not suffer as formerly a marked deterioration in quality.

NEW GERMAN FOOD PRODUCT.

Consular Agent Murphy, of St. Catharines, Ontario, writes:

It is an admitted fact that all legumes (dried peas, dried beans, lentils, etc.) are very indigestible in their natural condition or when simply reduced to meal. This is unfortunate, as they are cheap materials, whose ingredients are of great alimentary value. It is now claimed that systematic and long-continued experiments in Germany have resulted in the discovery of a process by means of which all disadvantages are obviated and a new food product obtained which is both appetizing and highly nutritious. By means of chemical treatment, it is asserted, the protein and carbohydrates of the legumes are made soluble and entirely digestible. The leguminous meal produced by this process is a concentrated food suitable for infants and invalids as well as for the everyday use of adults.

The product, as analyzed by Doctors Popp and Becker, of the Chemical, Technical, and Hygienic Institute at Frankfort, Germany, contains: Moisture, 7.86 per cent; fat, 2.29 per cent; soluble carbohydrates, 40.42 per cent; albumen, 21.70 per cent; other soluble nitrogenous matter, 22.65 per cent; mineral matter, 2.86 per cent; fibrous matter, 2.22 per cent.

An analysis made at the Fresenius Chemical Laboratory in Wiesbaden resulted as follows: Moisture, 9.48 per cent; fat, 2.20 per cent; carbohydrates, 63.43 per cent; albumen (digestible), 18.25 per cent; albumen (indigestible), 1.19 per cent; mineral stuffs (ashes), 2.71 per cent; fibrous matter, 1.89 per cent.

This meal, a fine yellowish powder with a slightly sweetish leguminous taste and perfume, is notably rich in albumen. Moreover, its carbohydrates are of a form which make them easily digestible. The mineral ingredients of chief value are potash and phosphoric acid, the latter being of use in the formation of bone.

According to Playfair and Liebig a normal man needs daily, when actively employed, 155.92 grams (2,406 grains) of albumen, 70.87 grams (1,093.6 grains) of fat, and 567.50 grams (8,757.7 grains) of starch and sugar; total, 12,257.3 grains = 1.75 pounds avoirdupois. As at all meals the body receives fat in various forms the above

analyses show in this specially prepared meal the correct relation between its albumen and carbohydrates.

The amount of nutrition contained in ordinary vegetable food which is utilized in the human digestive apparatus is much less than is that of meat. Of the albumen in ordinary legumes 17 per cent remains undigested, in wheat bread 9 per cent, in black bread and potatoes sometimes as much as 30 per cent. The carbohydrates of legumes, in their natural condition, are also wasted to the extent of as much as 30 per cent. In order to obtain from ordinary vegetables the requisite quantities of carbohydrates and albumen, it is accordingly necessary to consume a larger amount than the appetite demands. It is claimed that this and other disadvantages are obviated by the use of leguminous meal of the imported sort, either alone as a vegetable or in soups and sauces, or mixed with vegetables and meats. Mixed in equal quantities with cocoa it makes a pleasant and nutritious drink with the following percentages of alimentary value: Soluble albumen, 22.19; carbohydrates, 53.88; fat, 12.69; mineral matter, 4.15; phosphoric acid, 1.46.

INDUSTRIAL EXHIBITIONS IN IRELAND.

The excellent idea of holding local industrial exhibitions has been adopted in the south of Ireland, writes Consul Moe, of Dublin. The leading manufacturers and merchants of Limerick at a recent meeting decided to hold such a display in the summer of each year. It will be designed to embrace all the industries of Munster and Connaught, and no better location could be selected. Limerick is the natural center of the two provinces. It is situated on a splendid waterway and is the junction of five railroad systems connecting the south and west.

Limerick's industries, though still considerable, have greatly declined, but would be bound to benefit by such an exhibition, which would tend to revive some of the decayed manufactures and stimulate the existing ones toward increased enterprise and greater prosperity. The good effects will not be confined to the city nor to the large manufactures of the south, but will benefit the numerous small industries scattered throughout Munster and Connaught, and will have as one result the keeping of the people at home, by providing increased employment for them. Last year's exhibition in Limerick, though purely local, was a financial success, and the one now proposed, on a more ambitious scale and with more time for preparation, is bound to produce at least as satisfactory a result.

WAGES OF SADDLERS AND HARNESS MAKERS IN ENGLAND.

Consul Halstead, of Birmingham, England, writes:

Having been requested by an official of an American labor union to ascertain the scale of wages in England in the saddlery and harness trades, I have interviewed two men who are considered to be well posted in those trades, and inclose the following results of the interviews:

INTERVIEW NO. 1.

WHOLESALE SADDLERIES.

Brown saddlers work 56 hours per week at piecework and their wages are based on a long and intricate scale or list brought out by the society (labor union). None of them are half paid considering the quality of work produced, and the excellent workmanship. A very good man on the best work under favorable circumstances earns $9.73 to $10.94 per week.

Saddlers making general and middle class saddles earn from $7.29 to $8.50 per week, but sometimes for certain markets which give, as does South Africa, big orders for some kinds of saddles with little finish, a quick worker can make as much as the better class worker referred to.

Commoner quality workers can make from $7.29 to $8.50, because they can work away without much measurement or thought, etc.

Sidesaddle hands average the same as workers on men's saddles. They can not make as many sidesaddles per week, but make higher prices per saddle.

The foregoing are wages for goods known as "factory-made." While in some few factories there is no piecework and the employees are paid so much a week, the results are practically the same.

A London factory man earns from $1.21 to $2.43 more a week, owing to increased cost of living there.

RETAIL SADDLERIES.

In London and the country towns throughout Great Britain the all-round man employed on fine retail saddles commands the highest wages, and by an all-round man is meant a man who is of more use in a saddler's shop than the man who can make a saddle only. Men of this class come in a different wage category, and are worth $14.59 a week and perhaps more. In the Walsall district a saddler only makes the saddle. Some of the lighter portions of the work, such as the stitching, etc., are done by women, and these women earn from $4.86 to $6.07 a week, according to ability and the amount of work that is forthcoming.

By gig saddlers are meant makers of saddle pads for harness of all kinds. The foreman gig or black saddler gets from about $8.50 to $12.16 a week, day work; $12.16 commands the service of a good man, while an inferior man earns no more than $8.52. The foreman selects the material and cuts out, etc., taking the responsibility for the work being done properly. He knows how to select the leather and cut it economically. A black saddler fits up at piecework prices and earns about $8.74 a week.

Panel makers, at piecework, net about $6.07 a week. Women stitchers on best work earn at piecework $3.64 to $4.37 a week, according to aptitude and ability.

HARNESS MAKERS.

Cutters, day work, 54 hours per week, average about $9.73. A few get $12.16 to $14.59, on account of ability. A foreman and supervisor of the shops gets from $9.73 to $24.33 per week, day work, according to ability, number of hands employed, and class of work turned out.

Preparers and finishers get about $7.29 to $7.77 for 54 hours. If harness makers are on best work and trade is good they get $1.21 to $3.64 per week more, according to the class of work they are engaged on.

Women hand stitchers, working 54 hours, get, if trade is fairly good and they work steadily, $3.64 a week without much trouble, but there are few who actually earn more than $2.91. A girl is content to earn $2.67 to $2.91, but a widow will earn $3.64 to $4.37. This is on best work, the women stitchers taking heavy and light together.

Women machinists, using sewing machines, earn $3.64 to $4.37 per week, according to the class of work. There are no men stitchers in Walsall, but in London retail shops the stitching on the best harness is done by the harness makers, the work being less subdivided in London than in the wholesale manufactories in the provinces. There are no men machinists.

INTERVIEW NO. 2.

The following weekly wages are for men and women who have learned their trades: Women stitchers in harness and saddlery trades, $2.67 to $3.64; bridle cutters, men, $5.83 to $7.77; gig saddlers, men, $6.68; riding-saddle makers, gentlemen's work, men, $6.80 to $7.30; side hands, $7.77 to $10.94; purse makers, men, on saddle-style stuff, $5.83 to $7.77, and turned edge, men, $7.29 to $9.23; bag makers, including trunk and suit-case making, $8.26 to $9.73.

The figures given are for journeymen. There are of course apprentices in all these trades, and in some of them disproportionate numbers, depending on the strength of the labor unions.

Stitching is largely done by learners, girls from 14 to 17 years of age. Their wages I shall not go into, as I know very little about them. I am not able to give you a printed list for the various trades; if I did have a list I fear the prices would not be authentic at the present time. Work is slack now and in many cases men are working for altogether insufficient sums, not being able to get full-time work, but so far as possible the figures I give you are what would be earned in ordinary times. I happen to have a very good knowledge of what workers can earn here and in the United States. In my opinion a man can not produce as much work per week here as can a man of equal caliber in the United States, and women stitchers here are not able to do as much work as male stitchers in the United States. To the best of my knowledge women are not employed in these trades to any great extent in the United States.

PAPER AND COPY BOOKS IN IRELAND.

Thousands of pounds, writes Consul Moe, of Dublin, are expended annually in the purchase of English and Scotch paper for the manufacture of copy books for use in the Irish national schools. Native manufacturers are deploring this loss of income, but the cost of production in Ireland seems to be so great that no attempt is made to compete with the English manufacturers. The reason for this condition in the Irish paper trade is summed up by a dealer and manufacturer thus:

"The manufacturer to a great extent is responsible. Neither persuasion nor threats will make him try to accommodate himself to circum-

stances. For instance, I am pledged to use nothing foreign in my productions, yet, to carry that out, I am 'fined' 10 to 15 per cent of my legitimate profits. I can get British exercise copy books, 100 pages, first-class paper (better quality than the Irish), delivered at my warehouse, at 8s. 6d. [$2.07] per gross. I can not manufacture an Irish copy book of the same quality at this price with more than 60 pages. Hence 'patriotism' costs the purchaser just 66⅔ per cent on prime cost."

A well-known firm of schoolbook publishers confirms the foregoing in the following words:

"There is really only one mill in Ireland which competes with the Glasgow firms in cream-laid paper for exercise copy books—that at Ballyclare. The cream-laid paper turned out by the Saggart mill is far too dear for the purpose, and even the Ballyclare mill does not seem to make it a specialty. The mills are kept so busy filling orders at 3d. [6 cents] per pound that very little time is devoted to the manufacture of paper at 1¾ or 2d. [3½ and 4 cents] per pound. Here is a series of copy books made entirely of paper from the Ballyclare mill, each containing 60 pages, at 1d. [2 cents] per book; here is another series, at the same price, made of foreign paper and containing 80 pages. The Ballyclare paper is a little better than the other, but the foreign—that is, the English or Scotch—with its extra 20 pages, is just as suitable for the purposes of a school exercise book."

The manager for this firm said, other things being equal, preference is always given to Irish-made paper. But the school-teachers, who buy the bulk of the books, will naturally select an 80-page copy book rather than a 60-page one at the same price. On account of the cost of the paper, only 60 pages can be put in the Ballyclare series to enable it to be sold at the price. The same holds true with regard to the paper used in the manufacture of other varieties of school-books.

This branch of the paper-making industry is practically "an untilled field," as they say here, and it would therefore seem that an opportunity exists in Ireland for the introduction of American paper and American copy books of good quality and low price.

IMPROVED CANE-SUGAR MANUFACTURE.

Consul Jones, of Funchal, writes concerning improved cane-sugar manufacture:

Till quite recently the improvements in the cultivation of cane and the manufacture of cane sugar have by no means kept pace with those made in the manufacture of beet sugar. A few years ago the yield of beet sugar was about 5 per cent of the weight of beet, whereas now a return of 11 per cent, and even 12 per cent, is obtained in all up-to-date factories. This is due to the superior quality of beet consequent on improved methods of cultivation, to the improved methods of extracting the juice, and to the close control exercised by a staff of experienced chemists over the daily working and output of the plant. The beet as well as the juice is analyzed and, until it is turned into dry sugar, every

stage of the process is jealously watched by the chemist and his staff. The analysis shows the amount of sugar in the beet in its initial condition, and as the juice is analyzed in every subsequent stage of the process, one is enabled to follow the working of the factory day by day, and any loss is immediately detected and located.

The difference between the mode of manufacture employed by some of the British colonial cane factories and that of the modern beet factories is so marked that one wonders that the cane factories manage to exist in these days of competition. In most cases they have no chemical control whatever, and in many instances the cane is not even weighed.

The point where cane-sugar manufacturers fail principally is in the extraction of the juice. In beet factories a diffusion process is used which extracts practically all the saccharine matter. In cane factories powerful steam mills are used, consisting principally of three rollers, and in many factories double and triple crushing is employed, but though a much larger percentage of juice is extracted by triple crushing the yield of sugar is not proportionate, as, owing to the repeated crushing, impurities find their way into the juice, making it more troublesome to work up into sugar. The juice is then clarified by means of lime, which, when the juice is heated, combines with the albumen suspended in the juice in a gelatinous form and neutralizes the free acids, so that when the boiling point is reached the juice is divided into a clear liquid and a thick layer or scum. The clear liquid is evaporated till sugar is produced. The scum, which contains a large amount of sugar, is either passed through filter presses or sent to the distillery, or in many cases simply thrown away.

Sugar cane contains about 82 to 90 per cent of juice. With single crushing only about 65 per cent is obtained. With double crushing most planters consider themselves extremely lucky if they get 72 per cent. The best extraction is at present obtained by triple crushing, with maceration by water between the mills, which gives about 83 per cent of juice; but owing to the many impurities in the juice and the extra cost of evaporation, this method has been condemned by many.

While in France in 1901 one of the large producers of Madeira was much impressed by the new process in diffusion, called the "Naudet process," by which the extraction is higher and juice of greater density is produced. He applied this process of diffusion to the production of cane sugar in 1903 with very remarkable results, the outcome being a further improvement in the diffusion process, which has now been patented in Great Britain and colonies as the Naudet-Hinton process. Messrs. Hinton have continued to work with this process, and at the close of their 1905 crushing season they are satisfied that it is a complete success.

The ordinary diffusion process has been often tried for cane, but though the extraction was perfect, the process did not lead to financial success, as it was necessary to cut the cane into very thin slices or chips, and these slices after diffusion could not be used as fuel. Moreover the juice extracted was of such low density that the extra cost of evaporation was not repaid by the larger extraction of sugar.

In this new process the cane is single crushed in the ordinary way. The megass, which still contains a large amount of sugar, is put into a battery of diffusers, where not only is the sugar extracted with a loss of only 0.3 to 0.4 per cent, but the juice is obtained in at least

nine-tenths of its original density. Another advantage is that all the juice from the cane is passed direct from the mills to the diffusers, where, by a very simple arrangement, it is clarified and passed through its own megass, which forms a magnificent natural filter. The clarified juice, which is perfectly clear, pure, and brilliant, is then evaporated in the usual way.

The advantages claimed for this process are as follows: (1) The extraction of the juice is very nearly perfect; (2) the expenses connected with the extraction are very much less than with double crushing and triple crushing; (3) the purity of the juice is practically unaffected; (4) the cane megass, after being passed through another mill, is used as fuel in the ordinary way; (5) all clarifiers, filter presses, skimmings, and the acidity consequent on their use, are totally abolished.

The process is simple, the method of working is easily understood by the ordinary workman, the saving of labor and fuel is very great, and the results obtained are satisfactory in every way. The cost of an entire plant is very small compared with that of one for triple crushing. The brilliancy of the liquid after it has been filtered through the megass by forced circulation is remarkable, and white sugar is made for direct consumption, if required.

Why should planters make raw sugar, which has to be melted down and refined, entailing loss, breakage, and expense, when white sugar can be made direct from the cane in the same way that beet sugar is made?

STOCK RAISING IN TUSCANY.

Consul Keene, of Florence, writes:

The agrarian committee of Florence started an annual cattle exhibition in 1897, with the purpose of educating breeders in profitable fattening, correct form, elimination of defects, and the improvement of Tuscan cattle in capacity for work and the production of meat and milk. The exhibition last year was the most important held thus far. The notable increase in the weight of fat animals, the greater uniformity in animals of the same age, the higher net production of meat (about 71 per cent), the larger number of breeders, the larger number of remarkable specimens in the oxen of the Val di Chiana class for reproduction, the greater fineness in the quality of the cows, all show much success. Count di Frassineto exhibited two very fine groups of Val di Chiana oxen. Marquis Emilio Pucci, of Val d'Elsa, and Count Umberto Serristori, of Val d'Arno Superiore, exhibited two good groups of Chianini oxen, showing that even outside the limited district of Val di Chiana there is a gradual improvement in the breed of Tuscan oxen. Symmenthal oxen are the only breed in competition with Val di Chiana. Symmenthal cows hold the record for yielding the largest quantity of milk, from 1,800 to 2,000 liters (475.50 to 528.34 gallons) each per annum.

Cattle in this district are comparatively scarce. The demand is, strange to say, greater than the supply, and prices are therefore kept up. Should the economic condition of the Italian nation improve, as is to be hoped, so as to raise the individual consumption of meat to the

average of the largest European countries, the production of cattle for food will become very profitable.

The plowed land in Italy is estimated at 16,000,000 hectares (39,500,000 acres). According to agriculturists, to be remunerative, every hectare (2.47 acres) must feed one head of neat cattle, and there ought, therefore, to be 16,000,000 head of cattle in Italy if its farming is to be prosperous. The statistics published by the Italian ministry of agriculture show that there are 7,000,000 horses and oxen and 9,600,000 sheep, goats, and swine. These latter represent 1,600,000 oxen, as six sheep, goats, and swine are reckoned to be equivalent to one ox. The sum total is 8,600,000 head of cattle and horses, or 7,400,000 short of the theoretical 16,000,000. The breeder has therefore a very large field in which to work.

GOVERNMENT MONOPOLIES AND NEW TAXES IN COLOMBIA.

Under date of March 15, 1905, United States Consul-General Alban G. Snyder, Bogotá, Colombia, transmits a translation of a decree issued on March 3 by the President of the Republic, whereby the production and sale of certain articles are constituted sources of national revenue.

The production, introduction, and sale of distilled intoxicating liquors is declared a Government monopoly. This monopoly embraces (*a*) brandy of sugar cané (aguardiente) and its compounds, and (*b*) brandy or cognac, whisky, champagne, pousse-café, chartreuse, creams, curaçoa, kirch, and the like, and extract of cognac and con centrated spirits for the manufacture of the liquors above mentioned. It does not include foreign wines imported for domestic consumption, tinctures, varnishes, perfumes, liniments, and other medicinal compounds into which alcohol enters, nor does it include denaturated alcohol; but the Government may grant the monopoly of the manufacture of such alcohol to the highest bidder.

The Government is authorized, when the present difficulties of the public treasury cease, to substitute for the slaughter tax the revenue from hides, at the rate of up to $2.50 gold for each cow and $2 for each bull.

On tobacco is levied a consumption tax, and the manufacture, introduction, and sale of cigarettes is made a Government monopoly. The following rates in gold will be charged on each 12½ kilograms (27½ pounds) of tobacco consumed: Cured tobacco, first quality, $1.20; second quality, 80 cents; third quality, 50 cents; tobacco clippings, first quality, $1; second quality, 60 cents; third quality, 40 cents. Taxes on tobacco imported are as follows, per kilogram: Cigars, $3; tobacco in any other form, except picadura and cigarettes, $2.50. The production of tobacco in the country and its exportation in any form is free.

The match monopoly covers the manufacture, importation, and sale of matches, and the importation of materials necessary for their production.

The Government reserves the right to administer the revenues provided for in the decree, or to lease them on the most advantageous terms.

Owners of establishments engaged in or manifestly organized to engage in the monopolized industries will be indemnified for the chattels, machines, utensils, implements, and materials which can not be used in other industries, at a value fixed by appraisers according to law; but they will not have the right to recover the ceasing profit. The indemnity will be paid, up to 50 per cent, in bonds, redeemable in the product of the monopoly. The indemnity must be claimed within one year.

The establishment of new cigarette factories by private persons is prohibited from the date of the decree, but those already established may go on working until the Government decides to the contrary, but only to make up the materials on hand or ordered at the date of the decree; and the products may be offered for sale only on payment of the tax mentioned below. When the factories are ordered to cease work the owners will be indemnified for their chattels, machines, materials, etc., at cost price, less an allowance for wear and tear, and the effects will become the property of the Government.

From the day fixed by Executive decree the importation by private parties of the monopolized articles, and of the materials, machines, implements, and utensils for their manufacture is prohibited. Until the establishment of match factories at places chosen by the Government, the importation of matches will not be interfered with. The Government reserves the right to introduce cigarettes or to allow them to be introduced under conditions thought necessary.

Until the match and cigarette monopolies are declared in force the present supply may be offered for sale on the payment of the follows ing taxes (in gold) per kilogram: Foreign cigarettes, or cigarette-made of foreign tobacco, $1; cigarettes manufactured in the country from native tobacco, 50 cents; matches, 25 per cent on the customs duty. The holders of other monopolized goods may not sell them, but the Government or the lessees of the monopoly will buy them at prices amicably agreed upon or fixed by impartial appraisers.

Provision is made for the protection of the rights of the departments whose revenues will be affected by the newly established monopolies and taxes, and of the rights of those with whom the departments have made contracts. When the product of a monopoly exceeds the present revenue from taxation of the monopolized article, 25 per cent of the excess will go to the departments and 25 per cent will be apportioned among the municipalities, in accordance with the number of children who attend the primary public schools, to be used exclusively for the expenses of public instruction, water service, and the construction of public buildings.

Defrauders of the revenues treated of in this decree will be punished in accordance with the decree on smuggling.

This decree was issued in pursuance of the policy announced in a circular to the governors of the several departments, dated January 26, 1905, setting forth the deficit in the national budget, and the means by which it was proposed to remedy it (which included an increase of 70 per cent in the customs tariff and the use of revenue stamps). A monopoly of the manufacture and sale of denaturated alcohol, for power, light, and heat, was established by the decree of January 28, 1905, which provided that the monopoly should be leased. All the decrees relating to these monopolies and taxes will eventually be published in a single pamphlet.

FAULTY PACKING OF COTTON.

Under date of May 25, 1905, United States Vice and Deputy Consul-General Rider, of Barcelona, Spain, transmits the following translation of a letter received from Señor Alfonso Par, the secretary of the Barcelona Cotton Exchange:

SIR: I have the honor to address myself to you as consul-general of the United States in Spain to request you to transmit the following complaints which have reached this society and are indorsed by us regarding the packing of American cotton. As you are aware, the sales of American cotton in this market are very important, an average of 300,000 bales being imported annually. These bales, as a general rule, arrive in a deplorable condition, the fault lying entirely with the American shippers, or rather balers or ginners.

The complaints may be classified as follows:

1. That the packers use a bad quality of gunny cloth, which is usually not sufficiently closely woven and is often merely a kind of trellis.

2. That the packers use the same baggings two and three times, for which purpose they are returned to America. This results in several pieces of different bagging being used on the same bale, with two or three marks showing. Although the old marks may be crossed out it is always imperfectly done and causes confusion.

3. That it is impossible to decipher the numbers on the bales owing to the inferior bagging used, although we are of opinion that the bales are frequently not numbered at all.

4. That the bales have two or three folds of bagging at the ends owing to want of care in counting them when baling.

5. That indistinct lettering is used in marking the bales.

Defects 2, 3, and 5 give rise to much confusion in the different parcels arriving by the same steamer, thus causing loss of weight in some and undue excess in others, besides claims on the score of the quality of the bales that have been exchanged. Defect 1 renders it very easy to lose cotton on the quay or in transit to inland towns, besides making cases of theft difficult to prove, as bales frequently arrive open or insecurely bound.

We may mention that in all arrivals of cotton there are a certain number of bales bearing illegible marks, which have to be distributed at hazard among the receivers after all the bales have been landed.

We are of opinion that all these annoyances would be avoided by the use of new baggings of better quality, by properly marking the bales, and by being careful not to omit to number them. There is no doubt also that the shippers would be saved numerous claims for loss in weight.

Believing that you take an interest in having American bales as well made as those from Egypt or British India, I beg to submit to you the foregoing particulars, of which you may make whatever use you think fit.

KOREA AND JAPAN FERRY STEAMERS.

Consul Harris, of Nagasaki, writes:

The Mitsu Bishi Dockyard and Engine Works at Nagasaki will soon deliver to the Sanyo Railway Company two ferry steamers to run between Fusan, Korea, and Shimonoseki, Japan, in connection with the Sanyo and the Fusan-Seoul-Wiju system of Korea. The distance between the ports is 120 miles, and the steamers are expected to make the voyage in eight hours. The *Iki Maru* and the *Tsushima Maru*, as these vessels are to be called, are steel twin-screw steamers of light construction, of about 1,600 tons gross, fitted with good accommodations for 12 first-class passengers, 16 second-class berth passengers, 29 second-class passengers, without berths, and 238 steerage passengers. They are 260 feet long, 36 feet wide, 22 feet deep, and their draught when fully loaded is 12 feet 6 inches.

Accommodations for passengers are provided in both European and foreign style. The social hall, with two of the first-class staterooms, is at the forward end of the upper of the two decks, while the dining saloon and the remaining four first-class staterooms are directly below on the main deck. The after part of the upper deck is given up to the second-class accommodations, with the steerage below on the after main deck. A novelty is the installing of large trough baths, in Japanese style, for the second and third class passengers. Each ship will have a cold-storage chamber with a capacity of about 300 cubic feet, fitted up for the transportation of fish. The lighting throughout will be by electricity, and all the spaces for passengers will be heated by steam.

The starting of these steamers will bring the entire Japanese railroad system into close connection with the Korean system, and through that with the Manchurian and Siberian roads, when the short gap between Wiju and Liaoyang is filled, as it soon will be, so that a traveler may make the journey from Tokyo to London with scarcely twelve hours on the water.

IRISH FISHERY STATISTICS.

Consul Moe, of Dublin, reports that the fishery statistics as printed in the Board of Trade Journal present the case for Ireland in a bad light. The fishermen of England and Wales in April, 1905, netted 815,022 hundredweight (91,282,464 pounds) of fish, worth £642,357 ($3,126,030), and shellfish which sold for £27,282 ($132,767); the Scotch brought into the markets £126,658 ($616,318) worth of sea products, and Ireland's fisherfolk gained only £18,983 ($92,380) from the deep. When the catches are compared in hundredweight Ireland is at a striking disadvantage, and it is notable that it is the only one of the three countries where there has been a falling off in the value of the sea fishing. The output of England and Wales increased in value by over $570,000, Scotland by nearly $78,000, and Ireland's return fell almost $44,000.

It is a common saying that the Irish have never taken kindly to the sea. They have at their doors a source of wealth which can be reaped

at small cost; but, seemingly, they prefer to migrate for the harvesting in Great Britain, or till their scanty fields, rather than engage in a profitable enterprise. Many reasons, good and bad, are given for this disposition to avoid the sea and fisheries. The fact that the returns from the Irish fisheries have shown such a marked falling off is engaging the attention of the authorities to ascertain the cause.

GOVERNMENT PALACE AND THEATER IN PANAMA.

Consul-General Lee, of Panama City, writes:

Proposals are solicited for the complete construction of the Government palace and national theater in this capital, as set forth in the plans executed by G. N. Ruggieri, C. E. These plans are on view at the office of the secretary of public works on week days between the hours of 2 and 5 o'clock in the afternoon.

Each bidder must be furnished with indorsements from some well-known firm which has already directed or executed works of construction of some importance and magnitude. The mere fact of being an architect or engineer will not be sufficient to admit a bidder to the competition. As the personal and daily supervision of the contractor is indispensable, no proposals will be considered by a contractor who already has Government work in hand in another part of the Republic unless, with the consent of the Government, the contractor delegates his work already under way to an equally competent person.

Each proposal must be accompanied by (*a*) a deposit of $2,500 (gold) as a guaranty of good faith; (*b*) a detailed schedule of the undertaking, with the amount of each kind of labor necessary and the unit of cost for each, it being understood that the contract shall be made for the sum total of the said schedule; (*c*) a detailed description and enumeration of all the systems of rubblework, floors, roofs, decorations, etc., and all the materials, and the place of origin of all materials, which the contractor prefers and proposes to use in the work, and why the systems preferred by the bidder should be entered upon the schedule of cost instead of other systems; (*d*) a declaration to the effect that the contractor has carefully studied the plans of the edifice and is impressed with the importance of the work, as also with the monetary obligation involved; (*e*) the declaration of a responsible person or business house in Panama, who will be responsible for the sum mentioned in the schedule of cost in case the bidder receives the contract.

The bids (written in Spanish, and folded so that only the name of the bidder is visible) will be opened on August 31, 1905, at 2 o'clock in the afternoon, and, their contents being noted, they will be delivered to a technical commission to be named by the President of the Republic. After five days the President will announce the successful bidder. The investigation to be made by the technical commission in order to decide upon the successful bidder will cover the technical capacity and reputation of the bidder, and will also include, above all, an exhaustive examination of the proposal and its conditions and the sum involved. The technical commission is, however, empowered to accept any proposal which in its judgment offers the greatest security to the Government that the work will be executed in conformity with

the rules of art, even though the said proposal may not contain the lowest bid.

It is expressly understood that the Government reserves the right to award the work to the bidder or bidders who can give the soundest guaranties in their proposals, so as to make the monetary arrangements with the treasury convenient. The Government also reserves the right to declare this advertisement null and void if none of the bids presented and examined are considered acceptable by the technical commission before mentioned. In this case new bids will be immediately asked for.

NEW SOURCE OF RUBBER.

On the very important subject of a new rubber source, Consul Aymé, of Para, writes:

The india rubber exported from Para has been traced to four main sources: India rubber proper from the Hevea brasiliensis; "caucho" from the Castilloa elastica or a closely allied species, Castilloa ulei; "maniçoba" from the Manihot glaziovii, and "mangabeira" from the Hancornia speciosa.

It has long been known that the latex of other trees is sometimes mixed with the latex of the hevea, giving inferior products more or less readily recognizable. But from the last bulletin of the State Museum (Museu Goeldi) it appears that a very considerable part of the india rubber of commerce known as "fine Para," and which has always been supposed to be the exclusive product of the Hevea brasiliensis, is really from a new and hitherto unsuspected source, a tree of the genus Sapium, of the family of the Euphorbiaceæ. The honor of this discovery rests with Prof. Henry Jumelle, who learned his facts from a Mr. Bonnechaux, a French explorer, and published a long account thereof in 1903. Dr. J. Huber, the eminent botanist of the Museu Goeldi (Para), who has personally explored the Amazon, even in its remote headwaters, has succeeded in identifying the tree, and has written a most interesting report, in which he includes Professor Jumelle's article, and which I have translated in extenso as an appendix to this report.[a] I have also had several interviews with Doctor Huber, and have examined the two small specimens of pure tapurú rubber, and also the many growing trees of Sapium in the botanic gardens.

Doctor Huber has also been kind enough to furnish me with a number of specimens of the leaves of several varieties of Sapium, together with a letter in which he refers to an entirely new tree, the "Burra leitera." These specimens and a copy and translation of Doctor Huber's letter are sent with this report.[a]

The new source of rubber appears to have been precisely identified by Doctor Huber as Sapium aucuparium Jacq. The tree bears many native names, tapurú, murupita, curupita, etc. It is of the family of the Euphorbias, of which the Hevea is also a genus, although widely separated.

A salient characteristic of the Sapium seems to be its polymorphism. Doctor Huber showed me a specimen which had borne very large, long leaves. It was transplanted to a shady place, and at once began to put forth small leaves not above one-fourth the size of the former

[a] Filed in the Bureau of Manufactures, Department of Commerce and Labor.

leaves and of an entirely different form. Leaves of both kinds were growing on this tree, although the large leaves were disappearing. From Doctor Huber's experiments and observations it would seem that the same tree will assume widely different aspects under varying circumstances, the main controlling factors being sun, shade, dry ground, and wet or periodically inundated ground. Doctor Huber finds that the hevea is similarly polymorphous, and asserts that the so-called "black" and "white" varieties are really one and the same tree, the "black" growing in the shade and farther from the water, and the "white" growing on the edges of the forest near water and exposed to the sun. This question of polymorphism becomes important, if, as seems probable, the quality and quantity of latex is similarly variable.

According to Mr. Bonnechaux the rubber from the tapurú trees exclusively can not be distinguished from pure hevea rubber. But there is testimony to the effect that pure murupita rubber (which seems to be identical with tapurú rubber) is less elastic and less resistant to traction than hevea rubber. Mr. Bonnechaux says that the merchants of Europe have never made any complaints. This is by no means certain. If complaints were made the commission houses of Para and Manaos would not make them public, but would merely refrain from purchasing the special grade of rubber complained of. Further, I find that there are sold in this market considerable quantities of a rubber which comes, for the most part, from the upper Xingú River, and which is known as "borracha fraca,"[a] or "weak rubber," which resembles closely in appearance and quality the specimens of murupita or tapurú rubber in the Museu Goeldi, Para. A price between that paid for "entrefina" and "sernamby" is paid for this rubber, showing that it is known to be of inferior quality. It is popularly supposed that it is made from hevea latex mixed with "bastard rubber." What this last is does not seem to be known. In my opinion this "borracha fraca" is tapurú rubber.

But there seems to be doubt that large quantities of tapurú latex are mixed with hevea latex, possibly to the extent of 40 per cent, without any difference in quality resulting, and it is even questionable to-day whether pure rubber, made exclusively from the latex of heveas, is sold in any considerable amount. I have had some inquiries made for me in the market with rather startling results. A small quantity, a ton or so, of up-river rubber was offered. A very low price was tendered, and to the expostulation that ensued the buyer replied: "I can not offer more. This rubber is one-half 'murupita' rubber." Quick as a flash the statement came: "No, indeed, sir; this is pure rubber. Farther down the river they do mix it, but this is pure." The experiment has been tried several times and always brings the same response, a denial of any mixing in the particular rubber offered, but an acknowledgment that such mixing does occur. Now, I am informed that the "borracha fraca," which is probably pure tapurú rubber, is sold in the New York market for about the price paid for good "entrefina." All of which results in this: That there is produced from the latex of Sapium aucuparium Jacq. a

[a] Under date of May 31, 1905, Consul Aymé writes: "I have secured a good specimen of the 'borrache fraca,' referred to in my report of May 25 as coming from the upper Xingú River. The present specimen is from the Tapajos River, but is, I believe, the rubber produced by the tapurú or Sapium aucuparium. For comparison I send two specimens of the supposed hevea product, 'fina' and 'sernamby.'"

rubber which finds ready sale and which, when mixed with hevea latex, produces a rubber not to be distinguished from "borracha fina," or the supposed pure hevea rubber. The expression used by a very prominent buyer here with whom I have discussed this matter is: "If there is such a thing as pure hevea rubber."

This Sapium is a rather hardy tree. It grows with great rapidity. There is a tree in the botanic garden here 5 years old, from seed, which is fully 8 inches in diameter 3 feet above ground and may soon be tapped. The seeds are small and apparently very hardy. They are certainly much less delicate than hevea seeds, as Dr. Huber planted seeds which were more than 6 months old which gave strong, healthy plants. Mr. Bonnechaux speaks of an "estrada" of 140 tapurú trees, and from his data it is calculated this estrada yields about one-half a ton of rubber annually. The tapurú is said, however, to be delicate; that is, it does not stand hard tapping. But it seems probable that with careful tapping, avoiding injuring the wood, the tree would do as well as hevea does.

In any case, if it is certain that the latex of this tree can be successfully mixed with hevea latex it would give it an enormous commercial importance, for this tree is very abundant and of wide occurrence in the Amazon Valley, although it is worked chiefly in the State of Amazonas. It would seem possible that Sapium aucuparium might be successfully grown in places where it has been found difficult or impossible to grow heveas. And even where the hevea has been successfully introduced, as in Ceylon, it would seem practicable to add to the hevea plantations this quicker growing tree, to mix the two milks, and thus increase the total output.

I do not discuss the more scientific and technical part of Doctor Huber's article, although I can not refrain from calling attention to his commendable attitude in refusing to divide mere varieties into separate species. He has thus reached a conclusion of the utmost importance, i. e., the extreme polymorphism of the species. It should also be said that Doctor Huber published in December, 1901, or two years before the publication of Professor Jumelle's book, an account of several species of sapium which he denoted as producing rubber. He is now engaged in very interesting cultural experiments with a number of young trees and promises to publish further details as soon as he can make sure of his results.

It is a matter of great difficulty to get any accurate information on such matters. The actual rubber gatherers are uneducated men and, as a most potent reason, know that their "patron," the contractor, will seize upon any pretext whatever to offer a lower price for the rubber brought in. The gatherer, therefore, is exceedingly suspicious and takes refuge in stolidly replying "I don't know" to all questions. He has neither time nor inclination to climb lofty trees to get specimens of flowers, fruit, or seed, nor can the "patrons" give much more information; they are too busy making money and accumulating the largest possible quantity of rubber; also it is doubtful if they would furnish any information they possessed, for might not the Para or Manaos "aviador," who sells the rubber finally, use it to the patron's disadvantage?

Nevertheless I am making attempts to secure some samples of pure tapurú rubber and shall try to gather all further information possible regarding this interesting subject.

GERMAN METHODS IN SPAIN.

Mr. A. T. Wills, who has been sent abroad by the New York Commercial to inquire into trade conditions and furnish letters for that paper, in a recent letter from Barcelona, Spain, supplies facts that will interest American manufacturers and merchants. Mr. Wills writes that in Barcelona there is great opportunity for the products of American mills and factories, yet not one American firm exists there. Of the presence of the Germans and their methods Mr. Wills writes:

The Germans are especially aggressive, and many of the German houses are doing the business that we ought to be doing. If they see that American goods are in demand they get samples of them, send them home and invite the manufacturers to imitate the articles, even if they are inferior, and thereby get the trade. This is not difficult, for there is no representative of the American interests on the spot to defend our goods.

The Germans also use drummers and personally present their wares; they make their descriptions in the language and their quotations in the coin of the country. In the matter of credit they are liberal, giving four and six months and even longer. Their salesmen speak Spanish, and in order to have them learn the language and become familiar with conditions, they send them as youngsters here and find them clerkships at very moderate salaries, and thus these boys are in a reasonable time in a position to solicit trade and to know what is required. It is not at all unlikely that they walk out of their clerkships with a fairly good list of their employers' customers.

SPAIN'S TEXTILE TRADE.

There are 125,000 people here who are employed in textile mills, the products of which are shipped to the East, to the Philippines, and to Porto Rico and Cuba. The looms are modern, labor is cheap. Spain has the East Indian and Egyptian cotton market to draw upon as well as ours, has good shipping facilities, and, more important than all this, turns out goods which the Spanish-speaking people all over the world want. It gets the trade, because its manufacturers turn out goods to meet the requirements, rather than, as we do, try to educate their customers to take what they make.

HINTS FOR AMERICAN MANUFACTURERS.

Among the numerous letters received by the Bureau of Manufactures, called out by a recently published interview with the Chief of that Bureau, is one from a gentleman in Philadelphia, who was formerly in the consular service and subsequently traveled abroad extensively in the interest of the Philadelphia Commercial Museum, which furnishes suggestions that are pertinent at this time. The gentleman alluded to says:

You hit the keynote of the whole situation when you state in your published interview of June 29 that we should not look for a market

abroad simply for our surplus manufactures. There can be no greater mistake. One of the great obstacles to the promotion of our trade, which has come to my notice through the experience mentioned, is the fact that the American manufacturer having a surplus in any way makes a dash for the foreign market, through the superiority of his goods creates a demand, and then, as soon as the home market consumes this surplus, ignores entirely the foreign demand which he has created, and destroys the promising market.

During my consular service I saw the great opportunity for the sale of American shoes in Germany. In conjunction with others, I induced one large concern to order samples from an American manufacturer. He was so well pleased that an order of some $27,000 resulted, and the trade proved so good and profitable to the retailer that he virtually ceased dealing in German makes. When he was ready to stock up, however, he discovered that the firm was so busy with the home trade that it had no surplus to sell him. The American manufacturers calmly said that even if they had been in a position to supply him, they were not now making the styles they had delivered before, and could not duplicate. The same old error of trying to force upon the foreigner not what he wants but what we think he ought to take. You may imagine the disgust of this particular dealer, who had great difficulty and financial loss in attempting to pick up his former trade, which he had himself educated to a different standard.

There is no greater necessity than that of studying local prejudices and wishes, with a view to catering to them, in connection with the superior excellence of the American product.

Another case I recall indicating to the general sales agent of one of the largest metal-stamping concerns in this country the opportunity that existed for him in the sale of knives, forks, spoons, and light metal ware generally in Spanish-American markets. I showed him samples and quoted prices. His reply was, "Oh, we do not make cheap stuff like that; our goods are of a vastly superior quality and could not be sold for that price." He was amenable to reason, however, and gave at last tentative belief to the assertion that improvident Spanish-American consumers would prefer to pay 50 cents for an article that looked well and would last three months, rather than $1 for a superior article which would last a year. Acting upon this assumption, he sent his people to visit Spanish-American countries, found the assertion true, decided to meet the competition, which in this case was German, found that he could manufacture and sell the goods even cheaper than the foreigner, and has built up an export market which makes him practically independent of possible dull times at home.

BREEDS OF CATTLE, SHEEP, AND HOGS IN FRANCE.

Consul-General Gowdy, writing from Paris on the breeding of animals in France, says that nearly forty breeds or subbreeds of cattle were enumerated in the catalogue of the agricultural show held in Paris last spring. In some cases a breed has local names in different Departments, or the difference is very slight, and may be due to climatic influence.

Oxen are still used in many parts of France for agricultural or draft purposes, and large, powerful, mild-tempered animals are pre-

ferred. Foremost may be placed the Charolais breed, which comes from the Department of Saone-et-Loire (east central part of France). The color of the animal is now almost white, the yellow and red varieties having been bred out; the height at the shoulder is 4 feet 8 inches to 5 feet, and considerably more in the case of prize stock. The Charolais are small-boned, short-legged, and small-horned. They fatten well and make excellent beeves, but the cows are but indifferent milkers, though they have sufficient nutriment for their calves. The prize animal at the show this year was a Charolais bullock aged 4 years and 10 months, weighing 2,975 pounds.

The Nivernais ox, which comes from an adjoining district, much resembles the Charolais, and, in fact, originated from the breed, which was introduced into the district about 1770 and crossed with Durhams imported from England in 1830. The Nivernais is one of the finest and most profitable breeds in France.

The Limousin oxen are bred in Dordogne, Corrèze, and Haute Vienne. They are big-boned animals, pure white in color, and good workers, easily fattened, and the beef is of excellent quality. The race has been much improved by careful breeding within the last few years.

The Garonnaise ox, from Tarn and Garonne, is a bigger animal, with short horns, straight or pointing downward. It is also easily fattened and makes excellent beef, but the cows are not good milkers. The Garonnaise oxen are the largest in France, and are said to range from 4 feet 9 inches to 5 feet 8 inches in height at the withers.

The Salers breed comes from Auvergne and Puy de Dôme. As this district is cold and mountainous, the oxen are housed several months of the year, and as a rule are badly fed and never fatten well. Under more favorable circumstances they make good beef. The cows are average milkers and produce the Cantal cheese, which is largely bought by the working classes in Paris and other large cities.

The Parthenaise ox, from Vendée, is a strong-boned, well-made animal, and the breed is esteemed as one of the best in France. The hide is yellow, the fore part dashed with red. The oxen fatten easily, and the cows are good milkers. The Nantaise and the Marchoise are subvarieties of this breed.

The Gascon ox is of average size, varying from yellowish gray to burnt coffee color. The oxen do not fatten well, but are much used for draft purposes. The cows give little milk and soon go dry. Much the same may be said of the Bazas and Aquitaine breeds, but the latter fatten better and their hides make very supple leather.

The Agenaise cows are not good milkers, but fatten exceptionally well. The only other breeds deserving mention are the Femeline, from Doubs and Haute Saone, and the Montbeliard, of the same district. The Femeline stock has been much improved within late years, fattens easily, makes good beef, and the cows are fairly good milkers. The Montbeliard cattle are stong-boned, fairly well-shaped, and of a red orange and white color. They fatten at an early age and the cows are excellent milkers.

SHEEP.

The three best native breeds of sheep are the Charmoise, the Poitevin, and Lauragais. The first named is a long-headed, barefaced sheep, with long, fine white wool. The breed originated in a cross

between Barrichon ewes and English (New Kent) rams, and takes its name from the farm where originally bred. The Poitevin (from Deux Sèvres) furnishes from 4½ pounds to 5½ pounds of "half-fine" wool and makes fairly good mutton, but the sheep are wild, bad tempered, and very large eaters. They fatten easily and attain weights of from 110 to 130 pounds.

The Lauragais, from Haute Garonne, are a strong breed, much appreciated for their long, fine wool and the quality of their meat. The wool is not so fine as that of the Lurzac breed (of which the Lauragais is a variety), but the milk is excellent and is used for making the celebrated Roquefort cheese. There is also a famous flock of sheep bred on the Government stock farm at Rambouillet.

The first prize at the agricultural show at Paris was taken by a pen of "Dishley-Merinos"—a cross between the well-known Merinos and the Dishleys, a breed originally imported from England, which grows very fast, gives a tolerably fine wool, 8 to 10 inches long, and makes good mutton, which the Merino breed, though excellent in other respects, does not.

HOGS.

The best breed of hog is the Craonnais, which often attains to the weight of 550 pounds in fifteen or eighteen months. The prize pig at the show, a "Manceau-Craonnais" both Mayenne breeds, weighed 763 pounds at the age of ten months and twenty-five days; three pigs, all of the same litter (Normand-Craonnai), aged eight months and twenty days, averaged 547 pounds each.

AMERICAN AGRICULTURAL MACHINERY.

There was a good exhibition of agricultural machinery at the show, a good part of which was of American manufacture. The exhibitors stated that the sale of American machines was very satisfactory and increasing yearly. One United States firm has been doing a Continental business for more than fifty years and has had a Paris office for thirty-five years.

NEW CUSTOMS PORTS IN VENEZUELA.

Consul Carl Bailey Hurst, La Guaira, Venezuela, reports that by a Presidential decree, dated May 22, 1905, a custom-house was established at Carenero, about 75 miles east of La Guaira. Carenero is said to have an indifferent harbor, but is in a famous cocoa-growing center, the product of which heretofore has been exported to the United States and Europe by way of La Guaira, but which will now be sent direct from the new port. This will, of course, take trade from La Guaira. The outward trade from the start will be diverted in a great degree, and the imports will be gradually deflected to the new port, so that the interior of the country will be wholly supplied through this channel. Steamship lines that touch at La Guaira are placing Carenero on their schedules, and the chief commission houses of La Guaira are establishing branch offices at the new port.

In addition to the new ports of Carenero and Tucacas the six following custom-houses have been established by Executive decree within a

few months: Barrancas, on the Orinoco, competing with Ciudad Bolivar; Cristobal Colon, which will divert trade from British Trinidad; Cano Colorado (reopened); Rio Caribe, near the old port of Carupano, and Pampatar, on the island of Margarita, a port free for all merchandise, with few exceptions, upon payment of 10 per cent entry; and Cebia, on the Lake of Maracaibo.

AMERICAN COTTON WANTED IN FINLAND.

Mr. Ernst Kielenbeck, of Helsingfors, Finland, writes Mr. William Whittam, jr., of the American Cotton Manufacturer, asking for the address of reliable houses in the United States engaged in exporting raw cotton. Mr. Kielenbeck says:

We have here (Helsingfors), 6 different cotton manufacturers, 2 of them in Taunnerfors, 1 in Forssa, 1 in Bjorncleorg, 1 in Otco, and 1 in Wasa. I therefore will be much obliged if you will give me some addresses of good and reliable export houses in raw cotton, to enable me to seek their agency for Finland and begin to work up a direct export business from America, independent of English and German brokers at Liverpool, Bremen, etc. First-class American references can be given.

THE LEATHER TRADE.

The Bureau of Manufactures has issued a circular letter to manufacturers of leather and of boots and shoes inviting the cooperation of that great industry in the efforts being made to promote trade in foreign countries. The circular letter says:

Our exports of leather and its manufactures have reached fair proportions, and are steadily advancing, a fact attributable mainly to the superiority of our machinery and methods, the enterprise of our manufacturers, and the skill of our workmen. With these advantages it is confidently expected that our sales abroad can be greatly extended, and it is believed that the Bureau of Manufactures, with the cooperation of manufacturers, can be instrumental in extending them. The Bureau, therefore, respectfully solicits advice and suggestions as to methods of accomplishing the desired object.

In furtherance of the work in this direction, it is proposed to establish a comprehensive card index which will enable the Bureau, upon application, to furnish information desired by manufacturers or by intending purchasers, and it is contemplated to extend the system, if the necessary authority shall be granted by Congress, to our principal consulates.

AMERICAN GOODS IN INDIA.

A letter received by the Bureau of Manufactures from an American gentleman in Italy describes an interview with an Italian trade commissioner who recently returned from a tour of investigation in the Orient. The Italian commissioner expressed the belief that the United States, with proper effort, could materially increase its

sales of cotton goods, manufactures of iron and steel, railway supplies, boots and shoes, mineral oil, etc., in India. To do this, however, the opinion was expressed that manufacturers and merchants should associate themselves and send a representative to India to exhibit samples and solicit orders from dealers there. While a considerable share of the importation is now in the hands of English houses, the people, he thought, would not hesitate to buy from the United States if the goods were shipped direct and prices and terms were satisfactory. The Germans are making rapid gains in their exports to India, which may be attributed to their persistence in preparing goods in form to suit the local markets. He further said that a part of the growth of German trade in the Orient is due to the fact that a good and reliable steamship service to that part of the world has been established by the Germans and greatly strengthened in recent years. While he thought that regular lines between the United States and India would be almost necessary to the development of any considerable export trade to that country, he suggested that the Italian steamship company now operating a line between Italy and India, with the assistance of the Italian Government, could perhaps extend its service to the United States, so as to give a direct through line from New York to India, touching at Italy en route.

DECREASED FLAX PRODUCTION IN IRELAND.

Consul Knabenshue, writing from Belfast, says the province of Ulster, comprising the nine northern counties, is the principal flax-growing section as well as the seat of the linen manufacture of Ireland. The production of flax, however, shows a steady decrease, falling from 14,513 tons in 1893 to 8,064 tons in 1903. The imports of foreign-grown flax increased from 62,220 tons in 1893 to 78,169 tons in 1903. The reasons assigned for the decrease in domestic production are: (1) Flax growing requires much more labor than other crops; (2) as none of the plant is returned to the soil, a four to six year rotation is required to bring the ground into condition for a second crop; and (3) flax can be grown with more certainty as to a crop under the better conditions of soil and climate in Belgium, Netherlands, and Russia, so it is alleged. The supply of Irish flax is utterly insufficient for the demands of the linen manufacturers in the Belfast district, and the home product has to be supplemented by heavy importations. Roughly stated, the supply is 25 per cent of Irish flax and 75 per cent from Russia, Belgium, the Netherlands, and other foreign sources. The Russian imports are largely in excess of all the others combined, due to the extraordinary cheapness of labor in the Russian Empire.

The fact that only one-fourth of the fiber used in the linen mills of the United Kingdom was of domestic production led to the theory that the continental growers had knowledge not possessed in Ireland. In order to remedy this supposed lack, the manufacturers in the Belfast district imported some Netherlands flax growers to superintend the cultivation of certain areas. The results showed that the Irish growers knew quite as much about flax as their Dutch competitors.

A deputation of nine Irish flax growers from the Belfast district

visited the flax-producing sections of the Continent in July, 1904, and their report has just been issued by the Irish department of agriculture. It states: "We went first to the Courtrai district of Belgium, which is the center of a very large flax industry. This district is traversed by the river Lys, which is practically a canal, and is noted for its inherent qualities of retting. The whole district on both sides of the river for 30 miles is almost entirely given over to the flax industry, 50,000 hands being employed the year round." The report then goes into details, the principal points being that the Belgian flax growers take all possible care to eliminate weeds by hand pulling—a matter which is somewhat neglected in Ireland—and that the flax is "ribbled;" that is, the seed is taken off by a combing process before the flax is retted. Irish flax growers have believed that this process damaged the fiber, but that view is now shown to be erroneous. The fiber is not injured, and the value of the seed saved is equal to 5 shillings ($1.21) per ton of green flax straw. In the retting process the flax, after being pulled, is submerged in slowly flowing water (not stagnant), in which a process of decay, due to bacterial action, is set up. This separates the flax fiber from the stalk. The retting in Belgium is done in wooden crates immersed in the river Lys.

The first retting takes from seven to ten days and the second takes from six to eight, according to the temperature of the water. The deputation says that this system is entirely new to them, and has many things to recommend it. By means of it merchants are enabled to keep their hands employed the year round, and farmers are saved the trouble of handling the crop at the time of the year when they most need all the help they can command for other work. The deputation recommends the system to the farmers of Ireland.

FLAX GROWING IN THE UNITED STATES.

There is no reason why the United States should not produce an ample supply of flax fiber. Usually the plant is raised merely for the seed, for which purpose only about one-fourth as much seed is sown per acre as when flax is raised for fiber. As a result, every individual plant sends out branches, each of which produces flowers and seed. Sown four times as closely, the plants grow taller, without branches, thus giving straight fiber. The weeding of the fields as the crop is growing and the pulling of the flax at the harvesting time involve a large amount of labor which other crops do not require, and it is probable that herein will be found the real reason for the lack of flax culture in the United States.

SUGGESTIONS TO EXPORTERS.

In calling the attention of American merchants and manufacturers to the methods employed by European merchants and manufacturers in exploiting the world's markets, Consular Agent Neuer emphasizes the value of cooperation. He points to the excellent and effective work of the various organized efforts made by parties in the German Empire to secure a foothold in foreign markets. The report is chiefly

valuable, as all such reports must be, for what it suggests rather than for the amount of information imparted. He said:

Our export trade could be materially forwarded by cooperation. It is the spirit of the age, and conditions compel it. The time has arrived when our exporters must get rid of jealousies and mistrust and join with competitors for the protection of their mutual interests. It is a matter not of option but of compulsion, and the sooner the export trade realizes it the better.

There are in existence in this country numerous organizations that are doing effective work in the promotion of export trade, the suppression of abuses, the regulation of prices and terms, the betterment of business methods, the diffusion of commercial and technical knowl edge, etc. There are similar organizations in the United States for the advancement of the home trade, but in our foreign commerce more thorough methods must be adopted if we would cope with other nations. Associations of exporters may be beneficial in many ways. They can have frequent meetings to devise inducements for attracting foreign trade; they can discuss their experiences and enlarge their knowledge on the various phases of modern export trade; they can more effectually protect themselves against losses, etc., and have a regularly constituted bureau of information, where the names of undesirable customers may be registered, and they can encourage our young merchants in their scientific and practical study of commerce and foreign languages.

Our exporters should make strong efforts to cultivate and increase trade. If it is neglected, even periodically, little progress can be made. Only comparatively few American exporters have a sufficiently large patronage to enable them to dispense with strenuous endeavors to acquire new customers. They must be alive to the situation, otherwise European exporters will get ahead.

Another factor is liberality. While seeking new customers it is above all of greatest value to retain the old ones. Differences between the exporters and receivers of goods may not be avoidable, but they are sometimes based on grounds too frivolous for a quarrel. If the exporter is at fault, he ought to make amends; if the purchaser is the guilty party, the exporter should meet him halfway. Independence is a valuable quality, but stubbornness is enough to ruin any business. To regain a customer lost is the most difficult task in commercial life, but it is often very easy to hold one if the proper means are applied.

In these days of intense competition nothing is more fatal than adhering strictly to set policies. Every avenue of trade is crowded with cool and keen-witted men, fertile in expedients and devices, who are perpetually inventing new ways of buying cheaply and at best terms, and if success is wanted in business our manufacturers and exporters must shape themselves to every exigency. It is a great mistake of some exporters to discriminate too much between the regular and casual foreign buyer. The same means that made the first permanent can make the second permanent also. Moreover, patience, fairness, and persuasiveness are necessary to develop our export trade. Many merchants fail to follow this course and as a consequence are the losers. It is natural enough that the introduction of new articles into foreign countries should meet with prejudices and doubts, and only perseverance, fair dealing, and the power to convince the foreigner of his false opinion will overcome this drawback.

A further means of building up export trade is the allowance of credit. It is impossible for American exporters to sell their wares on a strictly cash basis where European merchants give credit. Of course this does not mean that credit should be given to all who ask for it, but careful inquiries will enable our merchants to weed out undesirable foreign purchasers and to greatly limit the risks.

In these days of aggressive competition American manufacturers must adapt themselves to the trade methods of other countries, otherwise the time may come when we will be unable to make good what has been neglected, and rivals in Europe will prove invincible.

SMOKE NUISANCE IN VIENNA.

Consul-General Rublee, writing from Vienna, Austria, says:

The only reference in the municipal building regulations to the production, suppression, or regulation of smoke in Vienna is as follows:

"Chimneys of large smoke-producing plants, and those built for ventilating purposes or for boilers, must be so constructed that they shall not constitute a nuisance for the surrounding neighborhood."

The Austrian industrial law states that—

"The approval of the plant shall be necessary in all industries which use specially constructed furnaces, steam machinery, motors, or waterworks, or which are likely to become a danger or a nuisance to the surrounding neighborhood by reason of conditions detrimental to health, or on account of methods of operation that are dangerous, or on account of bad smells or unusual noises. Such plants shall not be allowed to be constructed without approval.

"In all such plants an official examination of the alleged nuisances must be made and necessary conditions and limitations shall be prescribed in their construction with particular reference to avoiding any detriment to churches, schoolhouses, hospitals, and other public institutions. Particular care is to be taken also that in the construction of the working rooms danger to the lives and health of workmen shall be avoided."

It is admitted by the authorities of Vienna that the existing regulations are inadequate to overcome the smoke nuisance. It is contended, however, that up to the present time no smoke-consuming apparatus has been invented that accomplishes the purpose desired. Proper firing of furnaces and the use of good fuel are considered of the highest importance. It has been proposed, therefore, to offer prizes to employees looking after furnaces, the municipality contributing to a fund for this purpose.

In recognition of the fact that the present laws are not sufficient, the following provision has been inserted in the draft of the new building regulations of Vienna:

"In smoke-producing plants no danger of fire, or sanitary evil, and no material nuisance to the neighborhood shall be allowed to be created. All plants to be erected in the future are to be so constructed and used that no such annoyances shall exist, and should such annoyances arise the owner of the plant must provide the necessary remedy at his own expense. In case changes are made in the neighborhood whereby a

plant already constructed becomes a source of danger from fire, a sanitary evil, or a material nuisance, it shall be the business of the owner of the plant to provide a remedy at his own expense."

If this proposed regulation or a similar one is adopted the authorities will have a far-reaching power to prevent smoke nuisances. The use of hard coal is quite general in Vienna, but the use of coke and gas has recently become considerable.

CALCIUM CARBIDE INDUSTRY OF FRANCE.

Consul-General Skinner, at Marseille, France, calls attention to the fact that the principal centers of the calcium carbide industry in France are in the Alps and the Pyrenees, particularly in the environs of Bellgarde, Grenoble, Nice, and Toulouse. At present there are 11 manufactories capable of producing 40,000 tons of calcium carbide annually. The demand is far from corresponding to the means of production, and the total output sold during 1904 may be closely estimated at 18,000 tons.

The average yield of gas per unit of weight of carbide is 300 liters (79.25 gallons) per kilogram (2.2 pounds). There appears to be no market rate, properly speaking. The French manufacturers are completely protected against importations by the Bullier patent, and manufacturers of carbide and of acetylene have reached an understanding whereby an average price has been established which enables both industries to exist. The manufacturers of carbide are said to lower their prices every time they are able to do so without inconvenience to themselves.

The merchandise is packed, according to the wish of the buyer, in metallic cans of 100, 65, or 50 kilos (220, 143, or 110 pounds) capacity, or, in case of shipment for exportation, in wooden cases lined with tin. Sales are controlled by the Société Commerciale du Carbure de Calcium, with headquarters at 2 rue Blanche, Place de la Trinité, Paris. This company has a capital of 2,200,000 francs ($424,600) and has been chosen by the eleven producing concerns as the selling agent for the entire country.

The cost price of ton of calcium carbide in Europe was estimated by Professor Lefevre, professor at the School of Sciences at Nantes, in 1897, at from 200 to 250 francs ($38.60 to $48.25). There was nothing then, so he stated, to indicate the probability of these figures being sensibly modified. M. Pictet, however, in the same year thought that the product might be made at a price of 82 francs ($15.82) by the use of a new furnace. His calculation was as follows:

Item.	Francs.	Dollars.
Electric current	12	2.32
700 kilos of pulverized coal, at 12 francs per ton	8.40	1.62
1,000 kilos of white lime	25	4.92
Labor	6	1.16
Interest, sinking fund, and general expenses	30.60	5.80
Total	82	15.82

Theoretically, says Professor Lefevre, 1 kilo (2.2 pounds) of calcium carbide ought to produce, by its action upon water, 406 grams (14.32 ounces) of acetylene—that is to say, a volume of 341 liters (90.08 gallons) measured at 0° and under pressure of 760 millimeters (29.94 inches). A good commercial product ought to give 300 liters (79.25 gallons), but the yield may be well below this in the case of material which has been carelessly manufactured.

Another of my correspondents, one of the most important firms included in the trust, speaking of the production in 1904, adds that this was disposed of at 200 francs ($38.60) per ton, the standard accepted and declared being 300 liters (79.25 gallons) of gas per kilogram (2.2 pounds). The product at the factory brings 200 francs ($38.60) per ton, and the rate for the retail dealer is 350 francs ($67.55). These figures demonstrate the advances made in manufacturing since the publication of Professor Lefevre's treatise in 1897.

Professor Lefevre concludes his study of the subject as follows:

"Acetylene is susceptible of many applications, the future of which it is yet difficult to pronounce upon. Illumination by acetylene gas is certainly the end which appears susceptible of most rapid development, and the only one from which any real service may be expected. The preparation of acetylene by calcium carbide is extremely simple, but caution should always be used. It is well to employ a good product, giving a relatively high yield, in order to know easily and always the quantity of gas which may be disposed of. Imprisoned under a pressure little superior to that of the atmosphere, acetylene may be employed without any danger for illuminating purposes. To take the same precautions as in the case of coal gas or any other combustible gas suffices, but care is absolutely required. The mixing of acetylene with the air should be carefully avoided.

"Compressed acetylene must be more delicately handled, and the same remark applies with even greater force to liquid acetylene. In addition to the serious causes of danger due to its endothermic nature, acetylene either in compressed or liquid form is always inclosed in iron cylinders, which are exposed like bottles of oxygen and of carbon dioxide to the accidents arising from an exaggerated charge or a defect in the quality of the metal. Therefore it is desirable that these receptacles be excluded from domestic applications and reserved to the use of experienced persons.

"What is the future of acetylene? Is it destined, as certain of its defenders affirm, to supplant all other illuminants, and become the one source of light? It is difficult to foresee the future, but a complete triumph does not seem to be probable. Moreover, the cost will certainly play an important rôle. The development of illumination by means of acetylene gas is subordinate to the selling price of calcium carbide. Acetylene has to fight against two powerful rivals. Coal gas, thanks to its numerous by-products, often permits of the establishment of prices so low as to defy competition. Electric illumination has also numerous advantages, even when more expensive, as for example, intensity, security, preservation of the purity of the atmosphere, suppression of smoke, odor, etc.

"Acetylene gas now is distinguished by the simplicity of its preparation, and is therefore adapted to installations where the number of burners is too small to justify the erection of a gas plant or electrical

station. It is especially adapted to hotels, villas, farms, isolated houses, ships, etc. For the same reason it may be employed in trams and railway cars. There appears to be a long series of applications especially reserved to acetylene gas which assure to it a special place in the list between its two principal competitors, gas and electricity."

BRITISH CONSULAR CHANGES IN MEXICO.

Under date of June 15, 1905, United States Consul-General James Russell Parsons, jr., transmits two clippings from the Mexico Herald of June 6 and 7, relative to the abandonment of the British consulate at the City of Mexico, and the discussions, public and private, which this has produced:

The fact that the consulate of Mexico City will be abandoned and the title of vice-consul given to one of the employees of the British legation, for this is what the news amounts to, was by many declared to look singularly like a step backward.

The following is from the issue of June 6:

According to Lucien J. Jerome, British consul in the City of Mexico, says the Jalisco Times of Guadalajara, England feels that the United States has a preferred claim to Mexico's trade and to the opportunities for industrial development in this Republic. At least, he states, no campaign will be made by British interests to wrest Mexican trade from the United States, and no efforts will be put forth by the British consular service to encourage the investment of English capital in Mexico.

Mr. Jerome is now in Guadalajara, having arrived here yesterday from Colima. He is on a business tour of a portion of the Republic, and will leave here to-morrow for Chihuahua.

"Mexican opportunities for investment are not quite good enough for us," said Mr. Jerome yesterday. "I do not mean by that that Mexican investments are not considered safe, but that better opportunities exist in the United States and in British possessions. There is an enormous amount of British capital now profitably invested in the United States, and there are plenty of opportunities for the profitable investment of a great deal more. In addition, a great amount of British capital can be profitably invested in developing the resources of Canada and other British possessions, and in building up trade between the colonies and the mother country. The United States is right at Mexico's door, and it is reasonable that it should secure the bulk of Mexico's trade. England is interested in Argentina and Chile, but outside of those two countries there is no Latin-American country that we care much about. A lot of British capital was at one time invested in Mexico, and it was lost. The investment of additional British capital in Mexico will not be encouraged."

OPPORTUNITIES IN EGYPT.

Trustworthy advices received by the Bureau of Manufactures from Egypt are to the effect that commercial opportunities exist in that country which are being improved by our European competitors and entirely neglected by the United States. Merchandise to the value of more than $100,000,000 was imported into Egypt last year, of which considerably less than $1,000,000 worth was imported direct from the United States. It is explained that probably 90 per cent of Egypt's imports were of a class that could have been supplied from the United States, the most important of them being commodities of which we are large producers. The following figures showing values of imports into Egypt last year will convey an idea of what might be accomplished in extending our trade in that country if a persistent effort were made: Cotton cloth, $15,000,000; iron and steel, $11,000,000; lumber, $6,000,000; coal, $4,500,000; wheat and flour, $3,500,000; tobacco for manufacture, $3,500,000; clothing, $3,000,000; copper, $2,000,000; kerosene oil, $1,500,000; chemicals, drugs, etc., $1,500,000.

These ten items constitute more than one-half of the total of Egyptian imports. Notwithstanding the fact that we are the world's largest producer of nearly all of them, our share of Egypt's import trade last year was about one-half of 1 per cent, yet we imported from Egypt products to the value of $8,000,000. Egypt's imports have more than doubled in the past ten years, owing to the great prosperity which has come from irrigation and the investment of European capital in various enterprises. The imports from Great Britain increased by $14,000,000 from 1895 to 1902, and those from Austria, Germany, and Italy also increased largely. The gentleman who furnishes the foregoing facts, and who is now traveling in Egypt, commenting on the failure of the manufacturers and merchants of the United States to make an effort to obtain a portion of this growing trade, says:

"American goods in Egypt are popular and are looked upon as reliable in quality. There are numerous importers who would like to handle them if they could do so on the same terms and with the same facilities offered by European manufacturers and exporters. Americans do not send salesmen to exhibit goods; they sell only for cash or on such short time that the goods must be paid for almost on the day of arrival. There are no banking facilities for direct trade, and no transportation facilities except by way of Europe. The consequence is the importer has no assurance as to the date on which goods ordered from the United States will reach him. These adverse conditions have discouraged those who have attempted to do business in the United States. Receiving no encouragement from the United States, the Egyptian merchants buy from Europeans, who send salesmen to their ports, give them the credit they require, see that banking and shipping facilities are supplied, and in some cases send goods to dealers to be sold on commission.

"I was informed of numerous cases in which goods purporting to be 'American' were brought from Europe, and that many of these were cheap imitations of American manufactures. These counterfeit articles could be readily detected if American manufacturers had agents here as traveling salesmen or if their products were consigned direct to local dealers."

BRITISH COTTON MANUFACTURERS ALARMED.

EFFORT TO GROW COTTON IN BRITISH COLONIES.

From clippings and reports sent in by Consul Halstead it appears that an earnest and apparently well-organized movement has been started by the cotton manufacturers of Great Britain, which should be vigilantly watched by growers of cotton in the United States. The purpose is to encourage the growth of cotton in the British possessions and countries other than the United States, when natural conditions favor profitable cultivation, in order, as the London Times declares, that the cotton manufacturers of Europe may be liberated "from the intolerable yoke of the American speculator." The movement is being directed by the British Cotton Growing Association, and is receiving active support from British cotton manufacturers and encouragement from those of the continent of Europe. At the International Cotton Congress recently held at Manchester, Mr. J. Arthur Hutton, vice-chairman of the British Cotton Growing Association, read a paper which set forth what has been already accomplished in stimulating the growth of cotton in British colonies and the further development expected in the near future.

In his address Mr. Hutton declared that the extension of the area of cotton production was urgent. "The demand for cotton steadily increases," said Mr. Hutton, "but hitherto there has been no corresponding development of the sources of supply. Recently the situation has been relieved by the huge crop produced in the United States, but should the crop this season drop to 10,000,000 bales there would inevitably be a recrudescence of speculation, with disastrous results to spinners. American planters desire to maintain prices by reducing production, but the interest of consumers is, of course, diametrically opposed to such a policy. That is one strong reason why the area of production should be enlarged as quickly as possible. Another reason almost equally cogent is the doubt whether American production could, in any case, keep pace with consumption."

THE EMPIRE'S ABILITY TO PRODUCE.

After describing in detail the progress made in cotton production in the British colonies, Mr. Hutton thus summarizes the work:

"To sum up the results of the work of the British Cotton Growing Association in a few words, it is not too much to say that they have practically proved that the British Empire is able to produce a vast amount of cotton, and of every quality necessary for the needs of the world. This result is due in the first place to the untiring and unselfish way in which the members of the council have devoted their valuable time to the work of management; in the second place to the hearty and willing cooperation of the colonial office and of the Government officials, and lastly to the generous financial support received, not only from the spinners and manufacturers, but also from the operatives. Lancashire may well feel proud of the public spirit of her working classes, who have subscribed large sums of money in support of this great movement at a time when they were suffering severe losses and

actual privations, owing to the mills running short time. Probably no movement has ever received such general support from all classes of the community."

FREEDOM FROM AMERICAN SPECULATION.

Concluding a long article on the address of Mr. Hutton and the work of the British Cotton Growing Association, the London Times says:

"Not only has the association laid the foundations of cotton growing on a large scale as an industry in the British Empire, but it has also been instrumental in stimulating other European countries to make similar efforts in the colonial areas available to them, though these are somewhat limited comparatively, since cotton growing is a semi-tropical industry. Their cooperation, however, will help to secure to the cotton-spinning industry generally the conditions essential to its prosperity, which are ample supplies of raw material at reasonable prices. An important step has, in short, been taken toward freeing the trade from the intolerable yoke of the American speculator."

AN OBJECT LESSON.

The thoroughness of the work being done to promote the growth of cotton in the British colonies is further shown by an exhibition in London, organized by the British Cotton Growers' Association, which will be continued during the month of July. The Prince of Wales and other distinguished persons recently attended the exhibition. The London Telegraph in describing the enterprise says:

"Cotton in all its stages, from the opening 'boll' to its uses in the finished fabric, is shown, and experts will appreciate the opportunities for comparison that the exhibition affords. To the ordinary visitor it will be enough to realize what is actually being done, as, for example, in the British East Africa Protectorate, British Central Africa, Rhodesia, and the Transvaal. In West Africa the prospects would appear most encouraging, and samples are shown of what is technically known as 'American quality,' grown on native farms in Lagos, Sierra Leone, Nigeria, north and south, Gambia, and the Gold Coast. India has of course from time immemorial been a cotton-growing country, with something like 15,000,000 acres under cultivation; but primitive methods in regard to the indigenous short-stapled varieties grown do not give a product of great value to Lancashire. Indeed, Japan and Germany are far larger buyers of it than ourselves.

"In conjunction with the Indian government, the association is encouraging the cultivation of better varieties, and is meeting with appreciable success. With regard to the West Indies the association has cause for real pride, for though in days gone by much was grown in these islands the industry was almost entirely displaced by sugar. Thanks to the endeavors of the association, with which Sir Daniel Morris, imperial director of agriculture, was heartily in accord, a great revival has been effected, and it has now been shown conclusively that the finest quality of sea-island cotton—originally carried to the United States from the West Indies—can be grown here. It realizes very high prices, and it is estimated that 5,000 bales, worth £100,000 [$486,650], and mostly grown on derelict sugar estates, will be available for shipment by the close of the present season."

CONSUL MAHIN'S REPORT.

The report of Consul Frank W. Mahin, of Nottingham, on this subject will be found especially interesting to American growers and manufacturers of cotton. It follows:

"An international cotton congress has been in session at Manchester during the past week, at which some interesting facts regarding the aims and work of the British Cotton Growing Association were disclosed.

"The association is proceeding on the assumption that growers in the United States intend to reduce production, or at least to prevent increase, in order to keep up the price of cotton, and that a few years hence the demand for cotton will be greater than the United States could possibly supply, even if production were absolutely unchecked. In ten years, it is estimated, 38,000,000 acres under cotton will be necessary to supply the world's demands, while it is believed that the number of acres available for that purpose in the United States will be limited to 35,000,000, and that this maximum will be reached in seven years. The absolute necessity of looking elsewhere seems evident if Europe would avoid a disastrous struggle for cotton supplies, involving speculation and gambling that might ruin the cotton industry of this part of the world. It is argued that Europe has not a moment to lose; that it will take all of the ten years mentioned above to build up a new cotton-growing industry sufficient to take care of the increased demand.

"COTTON IN INDIA.

"It is believed by the association that quicker and larger returns are possible from India than from any other of the British colonies. So far the main effort in that country has been to improve quality, though plans are made for steadily enlarging the acreage of cultivation. It is expected that progress will be slow, however, as the native cultivator unwillingly adopts new and improved methods.

"COTTON IN WEST INDIES.

"The greatest success so far is in the West Indies, principally because the plantations are in the hands of Europeans, and the association has hearty Government support. It is claimed that sea-island cotton of the best quality can be grown there and more economically than in the United States. Last year's crop was about 2,000 bales; this year's will be about 5,000. West Indian cotton is now arriving by nearly every steamer from that region, and is declared to be better in quality than the average American sea-island cotton.

"COTTON IN AFRICA.

"The association claims it to be now proved that cotton can be grown in all the African possessions, and that in most of them Egyptian cotton will do well. Contrast is drawn between unsuccessful attempts made in America to grow Egyptian cotton and recent encouraging experiments made in Nyassaland, East Africa. These latter were much restricted, however, on account of lack of money. In this colony 6,000 acres were planted to cotton last year; the area is 20,000 acres this year. Extensive districts have been seeded in South Africa

this year. As the population is large, and other favorable conditions exist, the possibilities are considered to be great.

"West Africa is regarded as a particularly hopeful territory. Cotton is being successfully grown there, and the native is characterized as a born trader and agriculturist. New ginning and other machinery is being put in, all British made; American-made machinery, it is claimed, has been found unsatisfactory. It is also averred that experts in cotton growing in the United States find their experience of little avail in West Africa, the conditions being entirely different; and the association is sending out young English farmers who have had a scientific training.

"In Nigeria experimental work indicates that cotton can be successfully grown. Indeed, the natives grow large quantities for their own use; and two experts who have visited the colony report in northern Nigeria the best cotton land they have ever seen. It is sanguinely predicted that this colony can and will in the future produce millions of bales of cotton.

"Experiments in Australia raise little hope for that colony, the most doubtful point being whether cotton can be economically produced by white labor.

"Investigation in Borneo, Cyprus, Fiji, Mauritius, and other colonies leads to the confident belief that cotton can be grown in all of them. In fact, experiment and inquiry convince the association that cotton is a natural product in any tropical country.

"LAGOS COTTON.

"Most positive success has been achieved in Lagos. In 1901–2 cotton did not appear as an export. In 1903–4 the colony exported 2,000 bales. This season the shipment is expected to be from 6,000 to 10,000 bales. This has all been grown by the natives, as the association has only just begun its plantations. The price of this cotton, at Liverpool, is reported as slightly above that of middling American.

"The results of the work of the British Cotton Growing Association, as summed up by an official thereof, 'have practically proved that the British Empire is able to produce a vast amount of cotton and of every quality necessary for the needs of the world. This result is due to the untiring way in which the members of the council have devoted their time to the work of management, to the hearty and willing cooperation of the colonial office and of the Government officials, and lastly, to the generous financial support received, not only from the spinners and manufacturers, but also from the operatives.'"

BRITISH TARIFF COMMISSION ON COTTON GOODS.

The tariff commission instituted by Mr. Joseph Chamberlain to investigate British industries under the existing system of free imports has published its findings with reference to the cotton industry of Great Britain. The conclusions of the commission were published in Consular Reports of July 10 (No. 2304) in a letter from Consul Moe, of Dublin. Much space has been given this report by the English newspapers, and the importance attached to it is shown by the very general editorial discussion it is receiving from the leading journals of the Kingdom. The London Times says the report completely sustains Mr. Chamberlain's famous warning, "Cotton is going." According

to the Times the report "shows that the British cotton industry is in every direction suffering from foreign tariffs, and from the competition which they stimulate, and that profits are steadily diminishing in it, while employment is becoming more uncertain. * * *

"The evidence shows that there may be some deterioration in British labor, owing to the emigration of the most skilled workers, while the earnings of operatives have probably decreased, for though wages have risen, short time has become common. There is a feeling of insecurity in the trade. Many important firms have been driven by foreign tariffs to erect mills abroad. Everything in England is sacrificed to cheapness, and women's labor is replacing men's as being less costly.

"England can no longer produce cheaper than her foreign competitors, but this is not due to the want of technical education. The Russian workers, who are the most uneducated in the world, make 'calicoes that I dare not put to our own weavers to make,' said one witness."

REMEDIES PROPOSED TO IMPROVE CONDITIONS.

One section of the report is devoted to "remedies" for improving existing conditions in the British trade. These suggested "remedies," furnished by Consul Halstead, of Birmingham, are given below:

"It is, in our opinion, clear that, apart from the supply of raw cotton and the operation of foreign tariffs, the principal causes of injury to the British cotton industry pointed out by witnesses are either part of wider questions than we can deal with at length in a report on the cotton industry, or are irremediable. Those causes are comprised under the following heads:

"(1) *The organization of the industry.*—By this we mean not the factory or workshop organization and the business methods of those engaged, in regard to which it is agreed that the British industry is under no disadvantage, but the relation between the home and the export trade, the specialization of the industry, the relations between the different branches, and the power of combined action in matters of trade policy. In all these respects present conditions have slowly grown during a long period of time, and whether they are an advantage or a disadvantage probably can not now be appreciably altered, even if alteration were desirable.

"(2) *Transport.*—The transport policy of foreign States stands upon a footing so entirely different from British railway and shipping organization that it is impossible to make a valid comparison of special branches of that policy with British experience. Their transport policy is, in fact, as much a part of their commercial policy as their tariffs, bounties, and subsidies.

"(3) *Low wages and long hours of labor in foreign competing countries.*—It is probable that, so far as European countries are concerned, this disadvantage in neutral markets to British producers will be mitigated, to a certain extent at any rate, by the growth of the foreign competing industry and the consequent rise in wages. With regard to what the evidence proves to be the main causes of the stationary condition of the cotton industry, the remedies are clearly suggested.

"(4) *Raw cotton.*—We are of opinion that the difficulties as to the supply of raw cotton which aggravated the recent depression will recur unless Great Britain is speedily made less dependent on the

United States. With that view the steps already taken to encourage the growth of cotton within the Empire should be encouraged and supplemented.

"(5) *The home trade.*—We have received suggestions for the imposition of duties on nearly all classes of cotton goods, ranging from 5 to 20 per cent. But in the view of the vast majority of witnesses and firms replying to the forms of inquiry, competition of an unfair character has, as yet, only made itself slightly felt in the home markets, except in regard to certain classes of finished goods and small wares. The general view, therefore, is that no duties are at present required on yarns or gray cloths. It is further held that the prosperity of the home trade would be promoted by the growth of other British manufacturing industries, which would increase the purchasing power of the working classes and so stimulate the demand for the products of the British cotton industry in the home market.

"(6) *Trade with foreign countries.*—In the forms of inquiry which we issued we included a question as to what reduction of the tariffs of foreign countries would enable the responding firms to maintain or increase their trade with those countries. Their replies and the evidence of witnesses show that, while they do not anticipate that any of these countries could be induced to remove their duties, comparatively moderate reductions would, in many cases, enable manufacturers to maintain the present proportions of their trade. We are of opinion that such reductions should, if possible, be obtained by mutual tariff concessions as between Great Britain and foreign countries, negotiated on the basis of a general British tariff as defined in our report on the iron and steel trade.

"(7) *Trade with neutral markets.*—In so far as the home trade is developed, and the adverse conditions of competition between Great Britain and foreign countries are remedied by the above measures, British trade with neutral markets will be maintained, or its decline prevented, by diminishing the costs of British manufacturers and increasing their competing power.

"(8) *Trade with British colonies and possessions.*—Of all markets, those in British colonies and possessions are the most important, and show the greatest increase. We are of opinion that they are the only markets open to British cotton spinners and manufacturers which are capable of great expansion. Witnesses and firms, replying to the forms of inquiry, are practically unanimous in their view that preferential tariffs, so far as they have been adopted by the colonies, have had a beneficial effect, and urge the adoption of preferential arrangements between the United Kingdom and British colonies and possessions. We are of opinion that in the adoption of such a scheme lies the only security for any considerable expansion of the cotton industry."

DECLINE IN ENGLAND'S COTTON TRADE.

Mr. Fred Baynes, a cotton manufacturer and merchant, has prepared a statement dealing with the principal points of the report on cotton by the "tariff commission," and it is a good summary of the report. Concerning the tariff commission and its cotton report, Mr. Chamberlain, in a letter to Mr. Baynes, says he believes "there has never been issued before so complete and impartial an account of the conditions of the industry and of its future prospects," adding that the report "has been compiled on the authority of witnesses of every shade of

politics and holding various views on the fiscal question." Mr. Baynes, in his summary, says that half a million working people are employed in the Lancashire cotton mills, millions of people are employed in transport and other subsidiary industries and in supplying the needs of a great industrial population. The industry depends on exports, four-fifths of the goods produced being sent abroad, and yet is not holding its own, consuming in manufacture practically no more cotton than was the case fifteen or twenty years ago, while the consumption of cotton by competing countries has increased by leaps and bounds.

Fifteen years ago Great Britain consumed 2,000,000 hundredweight more cotton annually than did the Continent; to-day it consumes 8,000,000 hundredweight less. Fifteen years ago Great Britain annually consumed 5,000,000 hundredweight more raw cotton than did the United States; to-day it consumes 3,000,000 hundredweight less. The explanation put forward is that so far as coarse yarns are concerned the continental markets have been lost, and the same loss must be looked forward to in the case of fine yarns, and that the weaving trade as a whole is stationary. The output for home trade requirements in the period 1901–1904 was little more than twenty years ago, notwithstanding the increase of population, and there are actually 19,000 fewer persons employed than there were ten years ago. The diminished importance is attributed to "the enormous development in the industries of those foreign countries which secure their own home markets to themselves by tariffs so high that British manufacturers can not get past them."

At the same time the exports from these countries have greatly increased. As the result of this foreign expansion the exports to Europe (excluding the Levant) have declined from an average of 400,000,000 yards annually to an average of 280,000,000 yards. In addition, these foreign exports to the "neutral markets" of the Far East are increasing, and their trade with the colonies is increasing at a greater rate than ours, except where a preference is given. If foreign competitors are left to follow their own course unchecked, it is to be expected that the United Kingdom will be increasingly invaded by foreign cotton goods. Large quantities of gray cotton cloth made in Russia and yarns made in France have been sold in Manchester. It is also to be expected that the export trade will further decline before foreign competition, which includes "dumping."

The remedies suggested are:

(1) To get fair play on the Continent and in the United States.

(2) To check foreign dumping in neutral markets.

(3) To make a give-and-take bargain with the British colonies, including India, which will preserve British and colonial markets for British and colonial manufacturers.

EFFECTS OF POISONED FLOUR STORIES AT AMOY.

Consul Anderson, writing from Amoy, China, calls attention to the fact that the American flour trade in that portion of China will be cut into to even a greater extent than anticipated in my report of April 24, 1905, concerning the sale of poisoned flour in this district some weeks ago. (See Consular Reports, No. 2309, 1905.) Reports indicate that the trade at Swatow has decreased very seriously and that the

trade of Fuchau is being affected. The manner in which the stories have spread of the poisoned flour and its effect upon its victims is marvelous in a country with such poor means of communication as China. There is now no doubt that a considerable quantity of flour was poisoned, probably in an attempt to smuggle morphia, but it is probably impossible to get at the perpetrators of the outrage.

The taotai of Amoy at my request has instructed all magistrates within his district to issue proclamations explaining the circumstances under which the flour was poisoned and assuring the people that there is no danger in the use of the foreign product. I have reason to believe that the taotai of Changchau, where the cut into the trade has been exceptionally severe, will follow the same policy. It is probable that with these and similar assurances the people in time will again take to the use of flour, but recovery will not be rapid nor is it at all certain that it will come in some places for a long time. American trade particularly is being damaged, because American flour controls the situation in this part of China. The Chinese officials concerned have without exception been anxious to rectify the trouble and have shown their friendliness to American interests in many ways.

AMERICAN CATTLE FOR TRINIDAD.

Consul-General Worman, writing from Three Rivers, Canada, says:

The Canadian commercial agent at Port of Spain, Trinidad, reports, under date of May 3, 1905, that in the year ended March 31, 1904, there were imported into that colony 7,033 oxen, bulls, cows, etc., not one of which came from Canada, and only two (for breeding purposes) from the United Kingdom. Venezuela supplied 6,970 head, and the British West Indies the remainder. The agent continues:

"I had an interview to-day with the largest importer of cattle here. He slaughters 240 cattle monthly, and expressed surprise that this market was not exploited by Canadian cattlemen. He was of the opinion that, given proper freight facilities, it would pay as well to send oxen here as to England, and the matter is one which merits the attention of those in the Dominion interested. The cattle received from Venezuela are comparatively small, the average live weight being about 850 pounds.

"The import charges per head are 10s. [$2.43] duty, 1s. [24 cents] inspection fee, 1s. weighing fee, and the average value per head, landed, is about £6 10s. [$31.63]. Owing to weather conditions, the meat is very poor from January to August. It improves from September to December, but can hardly ever be marked as first class. A certain quantity of frozen American beef comes here, but there is a prejudice against it, and it does not enter into serious competition with fresh meat."

ADULTERATED LEATHER IN ENGLAND.

From Consul Halstead reports have reached the Bureau of Manufactures, Department of Commerce and Labor, in regard to the adulteration of leathers entering England and continental Europe. Complaint is particularly emphatic in regard to leathers from Australia and America. Whether the use of the word America is intended to

include the United States does not appear. The leather is said to be "loaded" or weighted by impregnating it with chemicals. Measures are being taken, it is reported, by purchasers to prevent the sale of this adulterated leather. The complaints made against American leathers pertain chiefly to sole leather. It is hardly necessary to say that every effort should be made by American manufacturers to get at the facts in this matter.

If, as one of the reports referred to claims, there has been a falling off in the sale of American leathers amounting to $2,500,000 in the six months of last year compared with a like period of the year previous, the matter is much more serious than words will indicate and deserves the immediate consideration of leather manufacturers. The Bureau of Manufactures will do all in its power to get the facts, and is ready to cooperate in correcting abuses, if any are found, and in removing false impressions, if any are being disseminated.

The following report shows the value of exports of leather from the United States to the United Kingdom for the five years ending June 30, 1904:

Description.	1900.	1901.	1902.	1903.	1904.
	Dollars.	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Sole leather	4,829,332	5,167,976	5,383,944	5,885,234	5,611,423
Splits, buff, grain, etc	7,988,486	8,014,007	8,525,107	8,667,838	9,785,782
Other kinds of leather	2,278,359	1,692,314	1,926,877	1,849,320	1,559,329
Manufactures	1,248,359	1,660,443	2,142,040	2,289,890	2,060,302
Total	16,344,536	16,534,740	17,997,968	18,692,282	19,016,836

During the calendar year 1904 the United States exported leathers and manufactures of leather worth $35,000,000, while Great Britain exported during the same time $23,000,000 worth. For the first quarter of 1905 the United States exports amount to $9,128,837, the British to $6,425,911. The leather and leather goods exports of the United States amount to something like $36,000,000 a year, those of Great Britain to $23,000,000. These figures are significant. They indicate a technical development and commercial expansion that may be the cause behind the effort in foreign markets to discredit American leathers. Japan took from the United States 13,139,615 pounds of sole leather, worth $3,335,071, during the ten months of 1905 ending April 30. The price per pound was 25.38 cents. In 1904, same ten months, she took 1,707,227 pounds, worth $417,198; in 1903, ten months, only 615,490 pounds, worth $161,668.

AMERICAN SHOES AND LEATHER IN GERMANY.

Special attention is invited to the following letter from Consul-General Guenther, of Frankfort, Germany, who describes the determined opposition exhibited by German shoe manufacturers to American-made shoes. What the consul-general says about the success of an American shoe store in Frankfort will be especially interesting to American manufacturers.

Consul-General Guenther also contributes an interesting statement in regard to the manufactures of leather at Offenbach.

The League of German Shoe Manufacturers has just held its annual convention at Eisenach. The report of the executive committee contained the statement that a lively propaganda was in course of preparation to fight the importation and sale of foreign shoes, especially American shoes, in Germany, and that this movement would be conducted in conjunction with the Central Association of German Shoe Dealers.

These German shoe combines are alarmed at and bitterly opposed to the progress which American shoes are making in public favor in Germany. I know of several wealthy families, the members of which formerly had their shoes made to order by first-class shoemakers here, paying $5 to $6 per pair for them, but who now buy American ready-made shoes exclusively, which are sold at $4.28 per pair, are much more comfortable and of better shape, and last quite as well as those formerly made to order.

The American shoe store here, which started about three years ago, is doing a splendid business, which is constantly increasing, as is shown by its repair shop, where only its own shoes are handled. It employs twelve men on this work alone. People who have once worn American shoes are not likely to buy any others, even if the price should be made higher by advanced import duties, in response to the wishes of the German shoe dealers and manufacturers.

The American shoe store is located in the best business street of the city, and pays $8,000 rent per annum for a large, single corner room. The reputation of its goods is now so firmly established that the demand would not decline even if the store were to be changed to a less prominent and less costly location. This firm conducts American shoe stores with equal success in three other leading cities of Germany.

The annual report of the chamber of commerce for the Bavarian province of the Palatinate contains communications from leading manufacturing firms and industrial concerns in the said province. One of the important industrial centers of the German manufacture of shoes is the town of Pirmasens, from the annual report of whose chamber of commerce the following extracts are taken:

"The condition of the shoe industry of Pirmasens last year was not satisfactory. Orders were sufficient, but the high prices of the materials made the profits minimal. The demand for our shoes in foreign markets is decreasing.

"The exportation to transoceanic countries has almost totally ceased and that to European countries is becoming very difficult. The importation of American shoes has increased, and we expect that American shoes will have the same duties levied upon them which ours have to pay in the United States.

"Several of our correspondents express the wish that the German shoe industries be protected against foreign competition, especially from America.

"For the development of our industry a technical school for shoe manufacturing ought to be established here by the Government."

LEATHER GOODS INDUSTRY AND EXPORTS OF GERMANY.

The city of Offenbach, near Frankfort, is the manufacturing center for German fine leather ware. This line comprises pocket and note books, traveling bags and cases, ladies' hand bags and toilet cases,

writing cases, albums, and numerous other articles, composed in part or altogether of fine leather.

German exports of fine leather ware (not including shoes, boots, and gloves) for the year 1904 amounted to 6,287,380 pounds in weight, and form a very important item of German export trade.

The exports of Offenbach leather goods during 1904 were not satisfactory, according to the report just issued by the chamber of commerce of that city, which says:

"The unfavorable condition of the export trade extended during 1904 to Russia, England, and North America. Business with Russia suffered from the existing war and the risk of extending credit there. Sales to England remained on the reduced basis of 1903; the purchasing capacity being still weak from the effects of the South African war. Another cause is to be found in the unsatisfactory feeling toward Germany created by the press.

"The buyers from the United States now confine their purchases to the highest quality goods and to choice novelties. As a rule they do not duplicate their orders, because everything is soon imitated and manufactured over there and even sold at lower prices, the protective tariff rates stimulating American home production.

"Canada, which formerly was a good market for us, now makes her purchases almost wholly in the United States. That excellent market appears to be lost to Germany.

"The conditions for exporting to Mexico and South America were more favorable, as also to Paris firms which export to those places. Australia, too, gave good orders for fine leather goods; so did the Scandinavian and Balkan and Levantine countries."

LEATHER TRADE SCHOOL.

The trade school giving practical instruction in the manufacture of fine leather goods was attended by 64 students. The Government intends to institute courses of instruction in gilding and pressing leather, etc. For this purpose a large number of tools and presses have already been ordered. The extension of this trade school and of technical instruction courses is considered highly important for the prosperity of the fine-leather industries. There is some talk of adding a course of instruction in bookbinding. The city authorities will furnish new and larger quarters free of charge to this trade school.

The Offenbach Municipal Art Trade School had 542 scholars during the year 1904. Instruction is given there in drawing, painting, architecture, machine building, and embroidering. This school has day, evening, and Sunday classes.

CHEMICAL INDUSTRY AND TRADE OF HUNGARY.

Consul-General Chester writes from Budapest, Hungary, to say that in May, 1903, an American electro-chemical company expressed itself as desirous of economically manufacturing certain chemical products in Hungary notwithstanding that this country is a far better market for imports from the United States than as a field for manufacturing by foreign concerns. A careful inquiry into the chemical industries of Hungary for 1904 revealed the following facts:

During the working year 1901 twenty sugar factories produced from

3,967,553,805 pounds of sugar beets 634,385,214 pounds of beet sugar and in 1903 the same factories produced 182,981,800 pounds of molasses. Some years ago, when the price of raw sugar was about 50 per cent higher than at present, the production of sugar from sirup was not unprofitable. Two methods were in vogue: The Steffen process at Szerencs and Botfalva, and the simpler, weak process by "osmose" at all other places. Owing, however, to the fall in the price of sugar, and the greater popularity of molasses as animal food and as a basis for making alcohol, the manufacture of sugar from sirup has ceased. The French and German barium processes are no longer in use.

In the manufacture of alcohol from beet sirup, Doctor Effrant's process is used (with Flussäure). Sugar-beet sirup is at present quoted at 6 to 6.50 crowns ($1.22 to $1.32) per 220.46 pounds "ab station." Berymuss compounds are used in very small quantities in the refining of sirup, with uncertain results. Chlorbarium is much more used to destroy the cleonus (beet bug). Bariumhydrate is not manufactured in Hungary.

Acetylene plants for public lighting exist at Tata (700 burners), Veszprém (600), Nagyenyed (400), Mezötúr (400), and at various stations of the Royal Hungarian State Railways and the South Railway. No acetylene supply factories exist as yet. Carbide is difficult to procure and costly. There are 7 calcium-carbide factories in Austria and Bosnia; the factory at Jajce, Bosnia, having 7,000 horsepower, is Hungary's present source of supply.

Calcium cyanide and natrium cyanide are still used in only small quantities, the first by photographers only, the second by not even the most advanced manufacturers and merchants. They are quoted in Berlin at present as follows: Calcium cyanide, retail, 71 cents per 2.2 pounds; wholesale, $39.27 per 220.46 pounds. The German product pays $4.87 duty and about $2.44 freight before reaching the Hungarian market.

Alizarin is used by color printers rather than paint factories. There is no alizarin factory in Hungary.

There is a good market in Hungary for the chemical products of the United States, and the annual reports of this office for years have drawn attention to the fact.

CHEMICAL TRADE.

The total imports into Hungary of chemical materials in 1903 and 1904 were 120,974,197 pounds and 144,982,047 pounds, respectively, at average values of $2,422,741 and $2,961,579. The State statistician patiently specifies 62 different kinds. The total import of chemical products (ranging from paints to perfumes) in 1903 and 1904 was 3,762,304 pounds and 3,905,162 pounds, at average values of $4,412,661 and $4,556,893, respectively; 64 different kinds are enumerated.

In amount, saltpeter, sulphuric and sulphurous acids, hydroxide and carbonide of soda, refined sulphur, copper vitriol, glauber salts, crude soda, chloric acid, acetate of lime, manure salts, calcinate of soda, calcium carbide, silicate of soda, and chloride of lime head the list of chemical materials, and oil polishes, yeast, lacquers, boot polish, starch, glue, and ultramarine comprise the chief articles in the list of chemical products.

AMERICAN GOODS IMITATED.

A gentleman who is traveling abroad inquiring into trade conditions, with special reference to the promotion of American commerce, writes to the Bureau of Manufactures that foreign manufacturers in England and on the Continent imitate American products and sell them under the title "American made." The gentleman alluded to says on this point:

I find that a great deal of imitation of our manufactures under the tile of "American" is going on in Great Britain and on the Continent. I was recently told in London that many of the so-called "American shoes," as well as many other American articles being sold in Europe and elsewhere, are really of European make, but made after American patterns, and the English and French as well as the Germans and Austrians are doing more or less of this, both for the home markets and for exportation. Apparently quite large quantities of genuine American manufactures are being sent from England to Egypt, India, the Straits Settlements, China, and Japan. American sewing machines and other machinery manufactured in the United States are thus being sent by British exporters to the countries named.

In Germany many articles of American and English manufacture are being duplicated, and some of these are being sent to the Orient as well as to South America, Africa, and elsewhere. These imitations are also sold in German markets as "American-made" goods. This is especially true of shoes made after American patterns.

Considerable quantities of merchandise originally made in the United States reach France from England, the Netherlands, and Belgium, being imported, however, as products of those countries, thus securing in some cases the benefit of the minimum tariff rate which France does not accord to the United States. This may explain in part why our direct exports to France do not increase as rapidly as to England, the Netherlands, and Belgium.

RAILROAD IMPROVEMENTS IN VENEZUELA.

Jerome B. Peterson, consul at Puerto Cabello, Venezuela, reports, under date of July 20, that the National Government is to construct a railroad from the city of Coro to "El Isiro." This important work has for its object to facilitate the transportation of the coal extracted from the mines of the State of Falcón.

Twenty-three thousand one hundred and sixty dollars have been appropriated for the reconstruction of the aqueduct of Barquisimeto, including the canalization of the Turbio River and the preservation of the woods of Titicare.

The Grand Railroad of Venezuela (El Gran Ferrocarril de Venezuela) is reported to have a project for the use of petroleum in the engines of the locomotives. Various experiments have been made between Caracas and Los Teques with favorable results. At present the petroleum used in Venezuela is imported from the United States, but with the development of the mines of the State of Falcón a domestic source of supply is possible.

Fifteen thousand four hundred and forty dollars has been placed at the disposition of the President for the construction in Valencia of an edifice to be used as a public prison. For the completion of the work on the headquarters of the army and for barracks in the same city $2,316 was voted, and for repairing roads in the neighborhood of Valencia Lake $9,650.

During the past year the National Government, it is claimed, spent nearly $200,000 for improvements in the State of Carabobo.

In Caracas, the capital, there were expended $536,668; in Tachira, Merida, and Trujilo together, $198,018; in Aragua, Miranda, and Zamora, $114,121; in the Federal District, $153,967; in Falcón, Zulia, and Lara, $51,145.

EXCESSIVE WEIGHTING OF SILK.

The practice of excessive weighting of material is said to be working serious damage to the silk trade. The practice, it is reported, has brought many lines of silk goods into disrepute on the continent of Europe, and that the American trade has felt the bad effects of this abuse. The Japanese Government has adopted stringent regulations to prevent the continuance of the weighting abuse, and recently issued an order on the subject, referring particularly to the silk fabric known as "habutai," large quantities of which are exported from Japan. The order is as follows:

"The weight of habutai intended for export must not be increased by dampening. In the manufacture of habutai none of the following articles can be used: Magnesium, salt, sugar. The minister of commerce and industry is authorized to extend this list of prohibited materials. Goods manufactured contrary to these regulations can not be sold, transferred, or exported. The manufacturer must attach to every piece a label bearing the name of the manufacturer, where and when made, giving the year, month, and day, also the number of the piece. Each manufacturer is required to keep a record of every piece delivered, giving the year, month, and day of delivery, number of piece, and weight of the unfinished habutai, and the year, month, and day when finished, the weight of the habutai after the process of finishing, and the weight of the goods when offered for sale. Each book must be kept at least a year after the last entry in it has been made. The firms engaged in the export of habutai are required to submit their books and stock to the inspection of officers authorized for that duty. Whoever disregards any of these regulations or makes false entries in his books will be punished by a fine of at least 25 yen ($12.75). The proprietor of an establishment will be held responsible for the acts of his agents or employees."

SUPPOSED NEW POTATO.

Consul-General Skinner writes from Marseille, France, to say that—

Scarcely a week passes without bringing its inquiry in regard to the widely commented upon "new potato" which has been the subject of especial study on the part of Doctor Haeckel, director of the Colonial Museum of Marseille. Both public and private reports in

regard to this matter have been provided from this office, elicited by eulogistic newspaper comment which the facts have not, perhaps, warranted. Mr. L. C. Corbett, horticulturist of the Bureau of Plant Industry, says in reply to my request for facts:

"Your very interesting communication in regard to the so-called new species of potato, which we have determined to be *Solanum commersoni*, has been received. This plant has been known to botanists for many years, but, so far as I know, has only recently been made the subject of investigation by experimenters. While this plant seems to possess many valuable qualities, it is tropical in nature which, as well as its weedy character when it escapes from cultivation will not, it seems to me, warrant its general introduction into even those subtropical island possessions and perhaps into southern Florida, which are the only regions in the United States where we can expect to grow it successfully. As I understand it, the tubers have lost some of their acrid qualities under treatment, to which Mr. Haeckel has subjected them, but I am still of the opinion that where the common potato, *Solanum tuberosum*, and the sweet potato can be grown this new plant will receive comparatively little attention."

In spite of this opinion practical interest seems unabated, and I am asked to supply information as to means of procuring samples for planting. I can do no better, however, than to quote my last letter from Mr. Labergerie, Verrières, Department of Vienne, as follows:

"I have to say that I shall be unable to dispose of the '*Solanum commersoni violet*' until after the crop of 1905 becomes available. I accept orders at present for that period, but I can not make known the conditions until the state of the crop permits me to know if this plant maintains without change the virile qualities shown since 1900. As to the '*Solanum commersoni*' unimproved primitive type, I have none to sell. You may procure the same of Messrs. Vilmorin & Andrièux, 4 Quai de la Mégisserie, Paris."

AMERICAN AND EUROPEAN HIGH-GRADE TEXTILES.

The prejudice which has so long existed with a considerable number of people in this country in favor of imported textile fabrics is constantly decreasing. Commenting on this subject the Textile World Record for July says that most of the remaining prejudice is due to the easy habit of salesmen, tailors, and dressmakers assuring customers that their different fabrics are imported. The World Record says:

The wholesale and manufacturing trade know that the American mills to-day are turning out high-grade fabrics which compare favorably with the best European product. The acknowledged prominence of the United States in the world's affairs and her foremost position in many lines of industry have undoubtedly done much to overcome the feeling that we must go abroad for the best in textiles. Some of this season's mohair and luster dress goods fabrics are wonderfully good, and superior in design and finish to imported goods.

RADIUM AS A LIFE PRODUCER.

Consul Frank W. Mahin, of Nottingham, England, reports that the English newspapers record some curious and interesting results of experiments with radium at Cambridge University. Some time ago a son of Sir William Crookes showed that the emanations of radium were usually fatal to bacteria exposed to their influence, particularly those encouraged to grow in the broth or jelly of gelatin—the usual medium employed for their cultivation. One Mr. Butler Burke reversed this process in the Cavendish laboratory at Cambridge. His proceeding is thus described:

He sterilized some of this gelatin food, deprived it of every vestige and sign of life—and there is no reason to doubt that he did it thoroughly—then into it he placed some fragments of radium. If both the gelatin substance and the radium were sterilized nothing should have happened. But, according to Mr. Burke, in a few days something did happen. Something like tiny growths appeared, which in appearance, when scrutinized under the microscope, were not unlike bacterial growths—that is to say, the radium appeared to have been influential in creating a form of life where there had hitherto been no life.

Mr. Burke then made the experiment with greater deliberation and more care to avoid sources of error. He plugged with cotton wool tubes of gelatin containing radium and tubes of gelatin without radium, and then subjected them, under pressure, to a very high temperature. That, according to theory, ought to have killed any form of life in either tube. It did so in the tubes without radium, but in those which contained radium the gelatin began to show the peculiar growth that usually is characteristic when the gelatin is infected with bacteria capable of growing in it. These bodies were examined by Prof. Sims Woodhead, among others, and though Professor Woodhead has decided that they are not bacteria, they seemed to have some of the characteristics of living things. They seemed to grow, though they do not grow to a size greater than the sixty-thousandth part of an inch. They appear, like cells of living matter, to contain nuclei—but crystals might be mistaken for these things; crystals grow. These small bodies, however, have one characteristic which marks them off definitely from crystals. When they reach their greatest dimension, the sixty-thousandth part of an inch, they split. The subdivision has been photographed. Moreover, when portions of the growth are removed from the influence of the radium and placed in new gelatinous matter, these portions continue to grow. In other words, radium does not appear necessary for the support of the life of these things; it seems to act as the initial force which creates a sufficient change in the arteries or the molecules of the gelatin to set in motion something that has the power of assuming some of the attributes of living things. There may be some fatal flaw in Mr. Burke's precautions against error, but his experiments are deeply interesting, and it does not seem illogical to suppose that since radium is capable of upsetting the atomic constituency of inorganic matter, like metals or glass, and of producing what is called acquired radio-activity in them, it may also be able to disturb the atomic constituency of inorganic matter, and force it to take new forms resembling living forms.

BRITISH MANUFACTURING ASSOCIATION.

Under date of June 23 Consul Taylor, writing from Glasgow, Scotland, calls attention to the efforts of British manufacturers to secure, by cooperation, better knowledge of conditions in foreign markets. Quoting a local newspaper, the consul says:

An association, representative of British manufacturers and traders interested in export business, is now being formed under the name of the Manufacturers' Association of Great Britain. Its object will be similar to those of the Canadian Manufacturers' Association, many of whose members are now visiting this country, and the National Association of Manufacturers of the United States, namely, by the coordination of the industrial forces and cooperation among the leading manufacturers' and merchants' chambers of commerce and shipping, and like bodies, to promote and expand British trade in foreign and colonial markets. The means by which these objects will be obtained include the appointment of correspondents in all parts of the world to report on openings for trade and local changes and conditions within there respective spheres, and the distribution of such information among firms which it will most benefit.

A trade index to British manufacturers is to be compiled in the chief commercial languages of the world and distributed free to chambers of commerce, leading merchants, and others in the colonies and foreign markets. Information regarding the commercial standing of any firm of merchants, and respecting railway rates and shipping freights all over the world, will be collected and supplied, and a staff will be organized capable of corresponding on technical and commercial subjects in any language, and also of translating into and from English commercial catalogues and similar documents.

One of the main objects of the association will be the systematic dissemination of the knowledge of British goods in all possible over-sea markets.

Mr. Halstead, our consul at Birmingham, England, sent in practically the same material, and calls attention to comments of the Birmingham Daily Post, saying:

The Birmingham Daily Post, in commenting on this, speaks of it as evidently an inspired paragraph, and that it would be rather difficult to decide at present as to the soundness of the scheme or its prospects of success; but whether the association is to be formed or not, the Post believes that "one of the most hopeful signs for the future of British industry is the ability of the British manufacturer and merchant to learn from the experience of their competitors," and that "while in the past they have been accused of, and often rightly, being old-fashioned and unable to adapt themselves to the new conditions and requirements of foreign markets, of late there have been signs of that awakening which the Prince of Wales declared necessary." Continuing, the Post says:

"At home manufacturers have shown much less hesitation in 'scrapping' their obsolete plants, and in the Midlands, in common with other parts of the country, we have had instances where this has been effectively done, and the best ideas have been borrowed from abroad in the reequipment of factories which now are foremost in maintaining their position in face of domestic and international competition keener

than has ever been known before. Whether selling methods in foreign markets have been equally improved is difficult to decide, in view of the absence of visible evidence such as that presented by reorganized factories; but this is known, our export trade for close upon a year has been steadily expanding, both in volume and total value."

Discussing the plan of the British Manufacturers' Association, the Post thinks it is questionable "whether the promoters are not seeking to duplicate machinery which already exists, and of which sufficient advantage is not taken." It says:

"For instance, it is intended to appoint correspondents in "all parts of the world to report on openings for trade and local changes and conditions." To some extent this work is already done by British consuls. Foreign-office reports teem with such information, and become almost wearisome with statements as to where ground is lost, and the steps necessary to take advantage of the "openings for trade." The advice may be good or bad, but are the persons who could settle this point in a position to say whether it is or not? There is good reason to believe that they do not pay sufficient attention to the reports already placed at their disposal. * * * Doubtless, as business men are moving, they will recognize the necessity for promptness, and the fact that the reports come from the manufacturers' own representatives may give them more weight."

TAX ON COMMERCIAL TRAVELERS IN QUEBEC.

Under date of June 21, 1905, United States Consul-General Edwards, of Montreal, transmits the following text of the law, assented to May 20, imposing a tax of $300 on commercial travelers doing business in the Province of Quebec, which he says will affect a large number of American travelers:

341e. Any person not residing in the province who is desirous of acting as a commercial traveler, by soliciting or taking orders for or selling goods, wares, or merchandise, other than intoxicating liquors, or by advertising or offering such goods for sale, by sample, catalogue, or price list, for a person, firm, or corporation having no place of business in Canada, shall first obtain a license therefor from the collector of provincial revenue for the district in which he begins his operations in the province.

Such license is, subject to article 9 of this act, granted for one year, and expires on the first day of the month of May subsequent to its issue.

341f. Every person not residing in the province who acts as a commercial traveler by soliciting or taking orders for or selling goods, wares, or merchandise, other than intoxicating liquors, or by advertising or offering such goods for sale, by sample, catalogue, or price list, for a person, firm, or corporation having no place of business in Canada without being the holder of a license for that purpose then in force, is liable to a fine of not more than $1,000 and not less than $500 for each contravention.

341g. Every such person shall show his license to any collector of provincial revenue or to any person authorized in writing by a col-

lector of provincial revenue, and in default of so doing such person shall be held to have no license and is punishable accordingly.

341h. No commercial traveler licensed as aforesaid shall lend his license to another under a penalty of $300 for each offense.

Article 342 of the said act is amended by adding thereto the following:

NONRESIDENT COMMERCIAL TRAVELERS REPRESENTING PERSONS, ETC., HAVING NO PLACE OF BUSINESS IN CANADA.

For each license for a person not residing in the province to act as a commercial traveler by soliciting or taking orders for or selling goods, wares, or merchandise, other than intoxicating liquors, or by advertising or offering such goods for sale, by sample, catalogue, or price list, for a person, firm, or corporation having no place of business in Canada, $300.

Commenting on the law, the Onlooker, of Quebec, says:

A law was passed imposing a tax of $300 on nonresident drummers representing foreign companies. In the light of the situation, as a whole, the object of the law is not to aid home industries so much as to help replenish the treasury. Its effect will be neither to aid home industries nor to help replenish the treasury. It is perfectly safe to assume that the tax will not be paid, not even excepting enough exceptions to prove the rule. Foreign houses will either appoint resident agents or their present representatives will work Quebec from Toronto or some other outside city. Nothing will be benefited to any noticeable extent, nothing will be damaged to any noticeable extent, merely a stupid burden of inconvenience will be imposed on provincial commerce.

TRADE OPPORTUNITIES IN VENEZUELA.

A gentleman who is familiar with trade conditions in Venezuela writes to the Bureau of Manufactures:

American manufacturers and wholesalers could greatly increase their trade with the northeast coast of Venezuela and up the Orinoco if they would take the trouble. Much of this business, from the Orinoco as far west as Cumana, now goes to the island of Trinidad. The distributers there are all British. They get their foodstuffs from this country, necessarily, but most of their purchases are made in England. Their trade with Venezuela now amounts to probably $2,000,000 a year, even in the face of an extra duty of 30 per cent imposed on goods transshipped at Trinidad. When this duty is lifted, as it probably soon will be, and the necessity and dangers of wholesale smuggling are removed, their trade will be greatly increased.

The Venezuelans do business through Trinidad only because they are known there. They have tried to establish credits in New York, but failed through lack of interest. What they do not buy in Trinidad they get in Europe, where they are known and trusted. The Trinidad jobbers give the Venezuelans a first-class reputation for honesty and allow them practically unlimited credit. Ciudad Bolivar, the commercial center on the Orinoco, which is the gateway to a rich country,

should be an especially attractive point to American merchants. The people in that section are more independent than in any other part of Venezuela and much less susceptible to Caracas influence. They would like to do business with the United States if they could establish themselves, thus saving the jobber's profit and avoiding the 30 per cent duty levied on Trinidad, or the necessity for smuggling. Now and then the merchants at Ciudad Bolivar club together and send an agent to New York to buy a shipload of goods for cash, the agent chartering a ship to deliver them. This trade now is but a drop in the bucket as compared with what it might be made.

Practically the same conditions apply through the West Indies—the Leeward and Windward Islands. All of the business that American firms now get from the islands comes through commission men in New York who charge a percentage for buying and selling. This double increase in the cost minimizes the trade and drives much of it to England and Canada that would come to this country if the islanders could establish credits in New York.

CANADIAN FOREST PRESERVATION.

Consul Worman, writing from Canada, says it is reported by the Canadian Manufacturer that the Ontario government will this season announce a definite policy on the question of reforestation, and in so doing will follow the plan which the former commissioner of Crown lands, Mr. Davis, announced on returning from a trip to the Temiskaming district in October, 1903. The scheme practically amounts to a system of permanent forest reserves on which the timber will be sold only as it comes to maturity, and the price paid will be regulated by the amount actually taken; that is to say, measuring will be by the thousand feet and not by the acreage.

The new plan is to apply to nonagricultural lands, and the trees to be cut are to be marked by Crown lands employees. No trees below the size marked may be cut. Mr. Davis thought the present system of selling timber on lands fit for agricultural purposes was about the only one that could be adopted in order to get the lands quickly cleared and opened for settlement. As old licenses on nonagricultural land lapsed and the limits reverted to the Crown the land could be reforested, kept as a permanent forest reserve, and added to the nonagricultural lands previously set aside. Experts declare that the ultimate outcome of the plan now before the Dominion government would give Ontario a forest reserve of 40,000,000 acres, yielding a yearly revenue of at least $30,000,000.

RUSSIAN PETROLEUM TRADE.

LABOR TROUBLES IN THE OIL DISTRICTS.

Vice-Consul W. H. Stuart, of Batum, Russia, contributes an interesting article on the production of petroleum in Russia, the effect of recent strikes in some of the large oil sections, the quantity of stocks on hand, and prevailing prices. The local disturbances in Russia have

also had their effect upon the oil trade of that country. Mr. Stuart's letter follows:

The production of crude oil in the Baku fields in 1904 exceeded the apparent production of 1903, but there was a very great loss of crude oil through fires in September and October, 1903, and consequently the figures given do not show the actual production, because they do not include the loss by fire, nor the loss from strikes in July, which was considerable. In 1904 the production was also curtailed by a strike in December, which commenced on the 26th and continued until after New Year's Day. Notwithstanding that the producers made great concessions (after incendiarism had destroyed 129 rigs, mostly of producing wells), it is said that the workmen since returning to their employment have not been working with anything like their former energy, and this is shown by the decreased production in January.

The loss of production by the December strike, leaving out of the question flowing wells, was not less than 110,000 barrels per day for the month, which would have increased the difference between the output in 1903 and 1904, but would not, it is believed, have brought the 1904 production up to that of 1903 if the loss by fires and strikes in the latter year were taken into consideration. As there were 239 wells completed in 1904, against 189 in 1903, the results indicate very clearly that the production can only be maintained at about the quantity necessary to cover the demand by the drilling of at least 300 wells yearly; and, as time goes on, the number of wells will have to be further increased to keep up with the requirements, as, notwithstanding that the territory (except the older district of Balakhani) shows no marked signs of exhaustion, the water in the wells is generally increasing, which, although not affecting the volume of production materially, adds to the cost of the crude oil.

The strike in December was not wholly unexpected, although it came as a surprise to many. The workmen at the wells at Balakhani-Sabunchi-Ramani all stopped work on the morning of December 26, and later in the day the Bibi-Eibat workmen also went out. The workmen at refineries all stopped next day, so that on December 27 the Baku oil business was completely at a standstill. Meetings were held by the employers to ascertain what the men wanted, as their demands at the beginning, published in a semirevolutionary circular, were too absurd for consideration. The result was unsatisfactory, as the workmen seemed unable to agree among themselves, and consequently the employers were practically unable to accomplish anything. These meetings continued from day to day for more than a week, when fires commenced to break out among the Balakhani-Sabunchi wells, and it looked as if the whole district might be destroyed. About January 14, however, some sort of an arrangement was patched up and the men gradually returned to work, after an enormous amount of damage had been done by fire. A number of strikers and some Cossacks were killed and wounded. But the men still seem far from satisfied, and fresh strikes are expected every day. It is difficult to say what the exact demands of the men now are, but it is evident that the dissatisfaction with them is no longer an exclusively labor question, but is principally based on political grounds; in any case, however, the employer is the sufferer.

Under the existing unsettled state of affairs it is quite impossible to make any forecast of the probable production of crude oil in 1905,

but should labor or political disturbances not arise there seems to be no reason to believe that the production this year will fall short of that of last year.

ILLUMINATING OIL.

In 1904 the demand for Russian illuminating oil was about the same as in the preceding year, but as during the last three months of 1903 large quantities of oil were bought for export in 1904, there was an apparent absence of demand for export during the latter year. Early in the year the price of refined oil was high, owing to the heavy purchases at the end of 1903, but about March the price commenced to decline, and some refiners were deluded into forming a combination for selling export refined oil to offset a mythical exporters' combination. This refiners' combination was a sort of "gentlemen's agreement," to be broken at will, but as there was no material demand for their product the members of the combination were compelled to store their refined oil at Batum, as they did not dare stop shipping to Batum for fear of losing their allotted transportation. The result was that the stocks of refined oil at Batum increased rapidly, and it was discovered about June that instead of there being an exporters' combination, the prices in European markets were declining rapidly because of a very ruinous war between the people that the Baku refiners had been informed were working in harmony with the purpose of breaking prices here in order to buy cheap refined oil. The refiners' combination was for six months from May, and when the time of its expiration approached with nothing tangible accomplished by it, it was naturally presumed that it would not be renewed; but to the surprise of those who knew the facts regarding the situation in Europe the combination was renewed in November for another year, but the exact conditions seem to be unknown to those who are not in the combine, and it is difficult to understand them, as they seem to bind no one, and yet to partly bind a few of the parties. Since May the price of refined oil has declined materially, but it improved in September and October upon very little buying. Now it is again very low, with apparently no demand at any price. The combination always holds its refined oil at a good price, but members, or alleged members, seem to sell at any price they like, and it is said that buyers do not trouble the combination but go direct to individual members to do business, as the management of the combination never seems to know what is a fair price, but follows the lead of members who sell for their own account.

LARGE STOCK AND DECLINING PRICES.

At present the stocks of refined oil at Batum are nearly twice as large as they were at this time last year, and owing to the fact that these stocks are available only for export, and recent labor and political disturbances at this port have made the shipment of all goods from here almost impossible, they act as a very depressing influence upon the export market, as buyers for export naturally think there is a limit to the storage and credit of the refiners, and that when that limit is reached the refiners will have to sell their Batum stocks pretty cheap. This is said to be one reason for the declining price of Russian refined for export, but another reason given is the declining price of American refined, which is supposed to indicate an increasing crude produc-

tion in the United States, which frightens buyers of Russian refined, as the Russian competitors of the American exporters met with such strong competition last year in the United Kingdom and Continental Europe that it is thought they fear to buy Russian refined ahead because of a still further decline being possible in the price of Ameri can refined, which will absolutely prohibit competition.

At present there seems to be no demand for refined oil for export and very little for the home trade, notwithstanding that the season of heavy shipments via Volga is close at hand. The export demand is influenced undoubtedly by the foregoing conditions, and other business is exceedingly dull because of strikes and other disturbances at Baku and in all parts of Russia, business being in such a deplorable condition that no one seems to know what can be done one day ahead.

RESIDUUM.

Owing to the good price for refined oil early in the year, the attention of refiners was given to that product principally, with the inevitable result of overproducing it, and reducing the amount of residuum produced. Residuum, under ordinary conditions, is always in good demand for fuel in Russia, and the amount required is estimated at about 30,000,000 barrels. As last year's season of navigation of the Volga was started with smaller stocks than the previous year's, and less residuum was produced from the crude oil, by July it appeared that there would be a shortage of residuum, which naturally advanced the price of that product, the price of crude oil sympathizing. As statistics show, however, the output of residuum in 1904 was just about the same as in 1903, but at the close of navigation the stocks were seriously depleted, notwithstanding that the refiners have been taking more residuum from the crude, and the opening of this year's navigation will see a much smaller stock of residuum on hand, and unless the crude production increases materially there will be a shortage of residuum this year, provided that the demand is as great as it was last year, which at present, however, looks absolutely impossible. The fact is that the continued labor and political troubles in Russia, in connection with the continuation of the war with Japan, must certainly materially affect the demand for all petroleum products in Russia, and particularly for residuum, as conditions have become so difficult for manufacturers that they will not be able to operate their works to anything like full capacity, and consequently it is impossible that they will require so much fuel oil as they used last year. At the opening of the Volga navigation fuel was sold readily at a good price, but with a falling off in the demand, which seems inevitable, owing to the disturbed condition of the country, the price must decline, unless, of course, conditions at Baku are such that the crude production also materially falls off.

NO NEW TERRITORY DISCOVERED.

No developments of new territory have occurred in 1904, and the new field of Berekei, mentioned in last year's report, has developed hot water in some wells, which has had a depressing effect on the operations and on the prices of land in that field. As there are, however, two or three fair wells in the field, which have been producing for some

months, it is not likely that the hot water in a part of the territory will entirely stop the drilling. It is safe to say, however, that the Berekei field will not prove to be a factor in the Russian oil trade for some years.

CASE OIL SHIPMENTS.

In 1904 there were 9,881,096 cases and 5,068,180 cans of petroleum shipped at Batum, against 9,035,483 cases and 4,624,021 cans in 1903, showing an increase for the year of 845,613 cases and 444,159 cans. At the same time the case makers here had very serious labor difficulties to contend with, especially in the latter part of the year, and the cost of their packing must have been seriously increased, whereas the prices obtained for their goods were not in proportion to the increased cost, and I fancy an examination of accounts would prove that their operations were far less remunerative than in any preceding year. Owing to continued labor troubles in Batum, it looks as if this branch of the trade might be forced to shut down, at any rate temporarily.

JAPANESE IN THE WORLD'S MARKETS.

Japanese enterprise in various manufacturing industries is being felt in the Japanese markets by British and German traders. Ernest L. Harris, commercial agent at Eibenstock, Germany, writes on this subject:

The products of Japan's industries are gradually forcing themselves into various markets of the world where their competition is being keenly felt by English and German traders. Japanese ingenuity and industry are beginning to exert an influence to such an extent that their exports are increasing, while at the same time the markets in Japan are passing more and more into the hands of home manufacturers. This is causing a reduction of imports. It has long been thought that the Japanese were masters of the art of imitation, but it is now generally admitted the world over that they also possess powers of great initiative.

A recent report of the British consul at Kobé records the fact that the import of cotton yarns shows a big decrease, due to the increased growth of the Japanese industry, which is gradually but surely ousting Lancashire coarse cottons from the Japanese market. Among woolen manufacturers the outlook for imported goods is not bright. The manufacture of flannels in Osaka has improved to such an extent that imports of this article have fallen off considerably. Japanese manufacturers to-day are producing the cheapest kind of cotton underwear, socks, toilet soap, and lamps. The indigo and tobacco trades are also rapidly passing into Japanese hands.

BANKING LAWS OF PERU.

Mr. Irving B. Dudley, United States minister to Peru, explains in the following letter the laws and regulations of Peru regarding the establishment of banks incorporated in another country. He also explains the regulations that govern the local banks.

Under the laws a bank established in Peru by a bank incorporated in another country would do business not as a branch bank, but as one purely Peruvian in its origin (one not owing its creation to a foreign bank). The limitations surrounding a bank incorporated abroad and doing business in Peru and the privileges granted to such bank are the same with respect to the transaction of its business in Peru as affect any other bank. It is to be remarked that the banking law is to be found in the law applicable to all commercial concerns. All the large commercial houses at Lima do something of a banking business. Like banks, they must declare the amount of their capital and be inscribed in the Mercantile Register. It seems that they can do anything a bank can do, except, perhaps, to issue bonds (cedulas) against blanket mortgages. The law appears advantageous to a foreign bank doing business here, since, in establishing a bank in this country, it limits its liability to the declared capital, the subordinate character of the branch not being taken into account by the Peruvian law, which would treat it as a principal institution. While it is true that Peru has no comprehensive statute applicable to banks alone, special statutory regulations peculiarly applicable to banks have been passed from time to time, such as the requirement of a monthly publication of a statement of the condition of all banks.

The only tax to which banks established abroad and doing business in Peru are subject is the payment for the patent, being 5 per cent of the annual net profits, payable in equal half-yearly installments. The same tax is levied on all banks. All incomes in Peru exceeding 300 sols ($146.10) per annum are subject to a tax of 5 per cent.

Every check, whatever its amount, pays a stamp tax of 2 centavos (0.974 cent).

The stamp tax on drafts and promissory notes is 10 centavos (4.87 cents) on amounts from 20 to 500 sols ($9.74 to $243.50), inclusive; 25 centavos (12.2 cents) from over 500 up to 1,000 sols ($243.50 to $487), inclusive. If the amount of the note or draft exceeds 1,000 sols ($487) 10 centavos (4.87 cents) are added for any excess not amounting to more than 500 sols ($243.50), and 25 centavos (12.2 cents) for every additional thousand sols or fraction thereof greater than 500 sols ($243.50).

The same privileges are granted to a private banking firm as to an incorporated bank.

ITALIAN SILK INDUSTRY.

Consul Harlan W. Brush, of Milan, Italy, explains in the following letter the causes for the low price of silk in that country:

At the end of the season 1903–4 the silk industry was passing through a very serious crisis, prices were very low and, in some instances, stocks were heavy. Prices of cocoons, raw silk, and also stuffs were never so low before; toward August, however, there was a very considerable rise, taking the market price up from the lowest point to the highest by an increase of 96 cents per 2.2 pounds on the raw material. There was a reduction in the following January, when prices went down by about 58 cents per 2.2 pounds. Those who in August had silk in bulk were able to make very profitable sales, but these, it

appears, were in the minority, and there were a great number of spinners who, provided with fresh cocoons for a short period only, were compelled to buy again under less favorable conditions, and so practically lose their former margins.

It is stated that reeling is too much on the increase, too many men entering the field without adequate capital as compared with the number of growers. This encourages the monopolizing of the raw material to the detriment of the spinners who are compelled to have recourse to the East. The consumption of raw silk during the last year reached its highest point and certain elements go to show that the approaching year will be most favorable. Stocks of stuffs, raw material, and cocoons are light and prices are advantageous.

The progress made in the manufacture of artificial silk is a menace which the silk industry has to cope with, and the fact that several factories are at work in Italy is a matter of concern for both spinners and growers. It is urged that Italy should follow the example of Japan and endeavor to at least produce two crops of cocoons during the season, and so be able to better compete not only with the artificial silk, but also to withstand eastern competition.

MEXICAN MISCELLANEOUS NOTES.

William W. Canada, consul at Veracruz, Mexico, furnishes a number of interesting notes on fiscal and commercial affairs in that country:

Value of Mexican silver pesos in foreign coins.—The Mexican Government has decreed that for six months commencing with July 1, 1905, the following equivalents for determining the value of silver coins from foreign countries having a silver standard shall be in force. The value of the Mexican silver peso in coins of these countries will be: Bolivia, 1.25 bolivianos; Guatemala, Salvador, Honduras, and Nicaragua, 1.25 pesos; Persia, 5.97 krans; and China, 0.720 tael.

The Government has also established the following table of equivalents for calculating the value of the "peso," as fixed by the law of March 25, 1905, in foreign coins of countries having a gold standard. Consuls and diplomatic officers will calculate all fees on this basis.

Germany, 2.09 marks; Argentina, 0.516 peso; Austria-Hungary, 2.45 crowns; Belgium, 2.58 francs; Bulgaria, 2.58 levas; Brazil, 0.912 milreis; Canada, 0.498 dollar; Chile, 1.36 pesos; Costa Rica, 1.07 colons; Colombia, 0.498 dollar; Denmark, 1.86 crowns; Spain, 2.58 pesetas; Egypt, 24.24 pence (English); United States, 0.498 dollar; Ecuador, 1.02 sucres; France, 2.58 francs; Finland, 2.58 marks; Greece, 2.58 drachmas; Haiti, 0.516 gourde; British Honduras, 0.498 dollar; England, 24.58 pence; Italy, 2.58 lire; Turkey, 11.36 piasters; India, 1.53 rupees; Philippine Islands, 0.996 peso; Japan, 1 yen; Liberia, 0.498 dollar; Monaco, 2.58 francs; Norway, 1.86 crowns; Panama, 0.498 balboa; Netherlands, 1.23 florins; Portugal, 0.461 milreis; Peru, 1.02 sols; Russia, 0.967 ruble; Roumania, 2.58 leus; Switzerland, 2.58 francs; Servia, 2.58 dinares; Sweden, 1.86 crowns; Newfoundland, 0.491 dollar; Uruguay, 0.481 peso; Venezuela, 2.58 bolivars.

Mexican Government agent for sale of bar silver.—Mexico has inaugurated a new public service, under the supervision of the officials of the

mints, to make cash advances on all bar silver delivered. This bar silver the Government undertakes to sell in foreign countries at the best figure obtainable, without charging commission or interest. It is understood, however, that the operation shall not result in a loss to the treasury. All expenses and charges incurred, such as freight, insurance, refining, etc., shall be for account of the parties interested and will be deducted from the proceeds of the transaction.

Warehouses and wharf at San Benito.—Joaquin Mirambell has secured the contract for constructing a steel wharf, warehouses, etc., at the port of San Benito, State of Chiapas, to cost $400,000 Mexican currency. A guaranty of $10,000 has been given. Work is to commence within one year from signing the contract, and the wharf is to be finished one year thereafter. Material will be admitted free of duty. San Benito is a port in the county of Soconusco, State of Chiapas, a point near the boundary line of Guatemala, on the Pacific coast, and is the outlet for a large coffee region producing an article of very superior grade.

Asociacion Financiera Internacional.—Sr. Jose Castellot, or a company he may organize for the purpose, has acquired the right to establish an international bureau with the title of "Asociacion Financiera Internacional," whose principal object shall be to promote and stimulate the development of the resources of this country, invite foreign investments, encourage immigration, subdivide and improve agricultural lands, and facilitate business transactions with other nations. The bureau will furnish accurate and impartial information on all matters within the scope of its aims and purposes. A monthly publication is to be issued, the consular service, with the sanction of the Federal Government, to lend its aid in distributing the same. The bureau may also act as agent for the Government, though the latter assumes no responsibility whatever.

Free imports into Quintana Roo.—The Mexican Congress has extended the time for free importations through established customhouses in the territory of Quintana Roo, in the southeasterly part of the State of Yucatan, for one year, dating from July 1, 1905. Imports can not be used or consumed beyond the limits of the territory without being liable to duties and fines, or amenable to the law concerning smuggled goods. A full list of the articles included in this free class was transmitted to the Department in a report dated June 24, 1902, and was printed in Daily Consular Reports for July 19, 1902 (No. 1396).

INDUSTRIAL CONDITIONS IN BRITISH AFRICA.

VAST RESOURCES OF THE DARK CONTINENT.

Mr. Ernest L. Harris, until recently commercial agent at Eibenstock, Germany, contributes to this number of Consular and Trade Reports an interesting article on industrial conditions in British South Africa. The report is a review of a book published in England, and will repay the reading. Few parts of the world present more interesting trade features than are to be found in Africa, particularly in that section over which English capitalists hope to build

a railroad from the Cape to Cairo. The book under review was written by G. F. Hutchinson, and deals with conditions between the Cape and the Zambesi River. Movements going on in Africa offer opportunities to many of our merchants and manufacturers. Large quantities of mining and agricultural machinery will be needed; canned goods will be wanted, and railroad materials, from rails to locomotives, will be in demand. The commercial information contained in this article can not fail to interest our manufacturers and merchants, as Africa is already occupying an important position in the business world. Mr. Harris was recently transferred from Eibenstock to Chemnitz and made consul at that place. His review follows:

It is only now that the world is beginning to realize how vast are the resources of South Africa. Practically the whole of it, from Cape Town to the Zambesi, may be described as a "white man's country," in the sense that there are no climatic conditions to prevent white men from making it their home. The full significance of this can be appreciated only by those who have had experience in bad climates. Most of the country is rich in mineral wealth, a bait that has always had irresistible attractions for the adventurous Anglo-Saxon race. Diamonds have been found in Cape Colony, the Transvaal, and the Orange River Colony, a fact that goes to prove that the deposits are spread over an immense area. At present the chief difficulty in the industry is to regulate the supply so that it shall not be in excess of the demand.

The gold mines of the Rand have much of the character of a permanent industry. The precious metal is there in ascertainable quantity; the life of every mine, and indeed of the whole Rand, can be predicted with tolerable accuracy. The working of both gold and diamond mines has been greatly facilitated by the timely discovery of coal, of which valuable fields exist in the Orange River and Transvaal colonies in Natal and in Rhodesia, so that it can be safely affirmed that there is sufficient to last for many generations, and no fear need be entertained that the working of the other mineral riches will be hindered for want of fuel. Considerable deposits of iron ore are known to exist; hitherto these have been practically untouched, but should provide the increasing populations with a staple, and indeed an indispensable industry in the future. Copper, too, is widely distributed, and many other minerals of less value, but all capable of development.

Thus it may be fairly claimed that few countries are richer in mineral wealth than South Africa, and it must be remembered that this is a double asset; it not only provides immediate industries, but it will serve to introduce eventually, as was the case in Australia, that agricultural population which is justly regarded as the backbone of a country. And South Africa has great agricultural possibilities. For more than a century it has had a purely agricultural population, which has steadily spread northward, and has now reached the Zambesi. This speaks for the character of the country, and it must be remembered that this agricultural population has been one which sought to live and nothing more. Agriculture here is still in the experimental stage, and it remains for the future to show what the resources and experience of civilization can effect.

CAPE COLONY.

Agriculture.—There are indications at present that Cape Colony is about to begin the development of the solid resources contained in the land. An admirable object lesson is provided by the increased prosperity of East London, due mainly to the great development that has taken place in the eastern provinces. The majority of the rural inhabitants of Cape Colony are Dutchmen, who, true to the old Boer character, are content to let things be as they are, mistrusting what is called enterprise. Newcomers have generally slipped into the same unprogressive habits, though there are notable exceptions. In many places it is impossible to get fresh milk; farmers find it cheaper to buy Australian butter than to make it for themselves; meat is imported from New Zealand, eggs from Madeira. It is true that the best land in Cape Colony is all occupied, but it is generally said that its present output is no real criterion of the country's productive powers. There have been many individual successes in stock, sheep, and dairy farming, and some arable farms have given a fair return. The great obstacle, as everywhere in South Africa, is the want of water, and this can only be surmounted by the action of the Government, for extensive schemes for boring, irrigation, and water storage are beyond the powers of the individual farmer.

Fruit farming.—Fruit farming seems to have a great future before it, and has an admirable example in the Rhodes fruit farms situated near the Paarl, which have, to a great extent, served as a model to many farmers in the colony. This industry is still in an experimental stage. The California peach, however, has been widely planted; the pear trees have not yet reached their full bearing powers, and it has now been discovered that plums do much better when grafted on a peach root. Grading and packing is not yet fully understood, and anyone who knows the native will realize that he is not an ideal man to handle fruit. It is, in fact, difficult to prevent him from testing the ripeness of every peach by putting his thumb into it.

The near future should see the beginning of a new industry in preserving fruit and making jam. At present large quantities of fallen fruit, and much that is unsuitable to export, is simply wasted. Yet English jams and marmalades are eaten all over South Africa. Some manufacturers have already done well, but the market is for the moment glutted by a quantity of imported jam sold, after the war, below cost price.

Forestry.—It is proposed to plant timber on the land that is unsuitable for fruit trees. The oaks which the Dutch farmers planted are small but healthy. The cluster pine grows everywhere in the valleys and in places shows very fair timber. Experts consider that there is a great future for forestry throughout South Africa, and much experimental planting has already been done in the new colonies and Rhodesia. At present large quantities of timber are imported, but many of the conifers seem to thrive under the new conditions, besides certain hardwood trees. There is a theory that large tracts of forest would serve to attract rain, the prime necessity of the country, and it has already been proved that the shelter provided by trees is of inestimable service to agriculture. Even in England it is generally admitted that forestry is in its infancy, compared to its development in Sweden or Germany, and it remains to be seen what the Continental methods of

close planting and rotation of timber crops may effect in South Africa. Such an enterprise as the Rhodes fruit farms can not fail to have an excellent effect on the country. It provides a practical school for fruit farmers, and in all South African farming some practical experience is essential. If this example is followed in other branches of agriculture there is every reason to expect that Cape Colony, whether it continues to be a forwarding station or not, will have in itself resources which will make it independent of the other South African colonies.

NATAL.

It is generally held that the prosperity of Natal has been built up by this excellent policy of internal development. In its different districts it combines the advantages of a tropical and a temperate climate, of which full advantage has been taken. The history of its agriculture is one of steady progress. Sheep farming is the staple industry, but a considerable export trade is now being done in the bark of the black wattle, used for tanning purposes. Stock raising has recovered after the rinderpest, and mixed farming is very successful. The result of this steady development is that the debt consists of the comparatively trifling sum of $70,000,000. Durban has the inestimable advantage of an agricultural population at her back, has improved her harbor, and is making great strides with her transit trade. Natalians are now in a position to look beyond their borders, and have recently concluded an agreement with the Transvaal and Orange River colonies to advance money for the railway extension from Bethlehem to Modderport and Kroonstad. The scheme has been criticised on the ground that it is the same policy which has proved so expensive to the Cape. In reality, however, there is a wide difference. Natal developed her internal resources before she looked beyond, and when she did so she first assured herself of the prospect of a fair return.

KIMBERLEY.

The diamond mines.—Some 12,000 natives are employed in connection with the mines, and all those who come in actual contact with the precious stones are confined in compounds. The greatest precautions are taken to guard against what is called leakage. The "boys" who labor in the mine are engaged by contract for varying periods, from three months to a year, and during this time they are not permitted to leave the compound, which is connected by a covered way with the mine. A bonus of 50 cents per carat is paid for stones found, and some finds produce as high as $50. The compound is surrounded by wire netting to prevent the boys from throwing diamonds to accomplices outside, and at the termination of their contract they have to undergo a very rigorous search. The average wage rate is about $1 a day, and it costs the laborers about $1 a week to live.

De Beers Mining Company.—The influence of this great mining company is felt in every part of the country. It owns large tracts of farm lands, has a one-third share in the Rhodes fruit farms, owns a dynamite factory exclusively, and has large timber-cutting contracts on the borders of Bechuanaland. This company has also furnished the necessary capital for the new line from Fourteen Streams to Klerksdorp. It has spent vast sums in the improvement of Kimberley, and in the past it has supported the Chartered Company to the utmost in the task of developing Rhodesia.

RHODESIA.

Rhodesia is one of the most important countries in South Africa. All the reports which I have read about the country before and since the war are agreed that it has a great future. Apart from Hutchinson's book on the subject, other writers, German as well as English, declare that beneath the soil lies hidden not only gold, but vast deposits of silver, coal, lead, arsenic, antimony, tin, and copper. To-day the Chartered Company, with a capital of nearly $25,000,000, is to Rhodesia what once the East India Company was to India. This great stock company, which is famed for its commercial and political enterprises in South Africa, has been responsible thus far for the development of this land situated in the heart of the Dark Continent, bounded on every side by the colonies of European countries, and which as yet is but little known.

Hutchinson says that Rhodesia contains about 750,000 square miles, a territory larger than France and Spain, has a European population of 12,000 and a native one of nearly a million. The railway communication from Cape Town to Beira runs through it, with cross lines to the principal mining centers, and a northern extension has already crossed the Zambesi. The harbor of Beira is only some 400 miles distant from Salisbury, and the completion of the new line from Fourteen Streams to Klerksdorp, already mentioned above, will bring the country into more direct communication than heretofore with the Transvaal.

Farming in Rhodesia.—Hutchinson makes the following statements which are based upon reports of the Agricultural Department, supported by the testimony of practical farmers in the country:

Experts consider Rhodesia one of the finest stock-raising countries in the world, and this view is borne out by the immense herds of cattle held by the natives in former times. In recent years stock farming has suffered from three successive blows, namely, the rinderpest, the Matabele rebellion, and the African coast fever. It is generally admitted that such misfortunes are inevitable in a new country before the proper remedies and preventives are discovered. Rinderpest is no longer feared since the discovery of inoculation, and means are now being found to deal with the African coast fever by preventing cattle from being moved, and so spreading it through the country.

Wherever irrigation is possible wheat, oats, or barley can be grown, and Rhodesia with its abundant streams offers opportunity for water storage and irrigation. On the farm of the Rhodes trustees in the Matoppos this has been tried on a large scale, with the best results. A dam was built at a cost of $150,000, and, despite dry seasons and a rather limited catchment area, the farm pays 5 per cent interest on the capital invested in it. It is true that $150,000 dams are beyond most people's reach, but it is contended that this example has shown what can be done by irrigation, and that irrigation on a small scale is possible almost anywhere in the country.

Few portions of the earth's surface will produce, within such a limited area, so large a variety of fruits as Rhodesia. Apples, plums, grapes, bananas, mangoes, and other fruits of a tropical nature all flourish in the soil. A great future is predicted for cotton, and tobacco already holds an established position. To promote tobacco raising, some government establishment is needed where the tobacco will be fermented, graded, packed, and sold to the factors.

At present large quantities of timber are imported into South Africa, but experimental forestry is being vigorously carried on in the various colonies. Rhodesia has large tracts of teak forests and an almost unlimited supply of the mapani tree, the wood of which is hard enough to defy the white ant but too hard to be a favorite with the carpenter. Different experiments show that several of the conifers thrive in the country, especially the cedars and junipers, besides different varieties of gum.

ORANGE RIVER COLONY.

Much is being done in this colony to further the interests of agriculture. Land companies and private individuals have purchased large tracts of land since the war, and have been fairly successful in their enterprises. The most notable example has been set by the Duke of Westminster, who is now devoting large sums toward getting farmers established in the colony. Inspired by faith in the possibilities of the country, he has purchased some 18,000 acres in the Thaba 'Nchu district, which is to be divided up into about twenty farms of 800 acres each, many of which are already occupied. Each settler is handed a check for $500. This is a present from the Duke of Westminster, and is supposed to defray the expenses of the voyage out, and to help toward the purchase of the necessary farm implements. Rent for the farms is not demanded, but the tenant pays a certain percentage of his profits. The terms are nothing for the first year, one-tenth for the second, one-fifth for the third, and so on until the sixth year, after which he pays one-half.

It will be seen from the foregoing description that South Africa will probably in the future become a prosperous farming country, subject, of course, to a proper solution of the irrigation question. The country presents a great field to American manufacturers of farm machinery. As it develops, and the now practically boundless veldt is gradually won for agricultural purposes, there will be an increasing demand for farm appliances, such as windmills, saddles, harness, carts, carriages, wagons, cornshellers, thrashers, plows, seeders, hayrakes, mowers, reapers, cultivators, harrows, corn planters, and in fact every other piece of machinery or utensil necessary to run a farm.

CHINESE DYE TRADE.

Consul Anderson writes as follows about the trade in dyes in China, and furnishes figures showing the imports of dyes and dyestuffs for last year:

The trade in dyes in China is a very large one and is well worth watching by the dye manufacturers of the United States. Apparently, the United States has the advantage in this trade at present, but there is reason to believe that a number of European interests are working to secure a greater share than they now have, and American interests need to be on their guard. There is little expectation that

Chinese native dyes will supersede the foreign product for many years—not until scientific use of native products comes to be as common as it is in the other parts of the world. The decreased export of safflower from the several producing districts in China tells the story of the rise in aniline dyes. Although the Chinese have been making indigo by native processes without help from abroad for centuries, even their ancient industry in this line is being superseded by the science of the foreigner. Foreign dyes are popular and comparatively cheap and will probably hold the market indefinitely. Artificial indigo is being imported.

The annual report of the imperial maritime customs in China for last year show the following imports of dyes and dyestuffs:

Kind.	Value.	Kind.	Value.
Bark, mangrove	$123,551	Sopanwood	$136,708
Cinnabar	137,556	Vermilion	156,362
Aniline dyes	1,325,164	Dyes, unclassed	232,289
Indigo, artificial	386,845		
Indigo, vegetable	420,702	Total	2,919,177

RAILROAD DEVELOPMENT IN PERU.

MINERAL WEALTH IN THE ANDES.

Consul Gottschalk, in his report on railroad development in Peru, revives the memories of Henry Meigs who did so much to make the name and work of American engineers a household word in South America. Besides calling attention to the roads to be built, the consul points out the mining possibilities in the Andes. Coal has been found, and silver, it is well known, abounds in various parts of the country through which the road is to run. Mr. Gottschalk says:

I was recently informed that the company of British capitalists which has the construction in view was incorporated in London. Its capital is said to be £600,000 ($2,919,900), which has been subscribed in London, Paris, and Amsterdam.

I have already had occasion to report upon the exceptionally advantageous situation of the port of Chimbote and its sister port, Samanco, which are separated only by a sandspit, and which undeniably form one of the very best harbors on this coast. The district behind the port contains a well-watered agricultural valley (the valley of Santa), and there are coal fields and a large section of country said to be rich in minerals on the line of the projected railroad.

The new railroad is to be built on a concession granted in 1903 to F. J. Schaefer and Alejandro Puente "for the construction of a railroad from Chimbote to Recuay, and passing through Huaraz." The concession further permits the exploitation of various coal fields along the line. Ever since 1864 the Peruvian Government has been interested in the construction of a road of this kind. In that year a survey was begun, and in 1871 the Government was empowered to make a suitable contract with private parties. After considerable trouble with various concessionaries, the work was undertaken by Henry Meigs, the American engineer to whom Peru owes the construction

of many railroads, among others the famous trans-Andean road from Lima-Callao to Oroya.

The new line, which will be some 290 kilometers (180 miles) in length, will ascend the Andean slope by means of "switchbacks," following more or less the course of the Santa Valley. Its features will be viaducts at Huaylas (158 feet long) and at Caraz (394 feet long), some 48 bridges, and not less than 30 tunnels, large and small. Altitudes of the principal points along the road are as follows, in feet: Suchiman, 874; Tuquilpon, 2,283; Yuramarca, 3,857; Huaylas, 9,140; Caraz, 7,337; Yungay, 7,641; Carhuaz, 8,679; Huaraz, 9,920; Recuay, 11,040.

The river Santa is the only Peruvian stream which, having its source on the eastern slope of the Andes (first divide) empties into the Pacific. Its waters run north to Yuramarca and turn abruptly westward at Cañon de Pato, literally breaking through the Cordillera to reach the port of Chimbote.

The work of construction carried on by Henry Meigs amounted to some 130 kilometers (81 miles) of road, of which 104 (65 miles) were laid with rails. In 1878 an unusual rise of the river Santa broke down the line at various places between kilometers 56 (Suchiman sugar estate) and 104, which part of the line was thereafter abandoned. The work now lying before the British syndicate referred to above, therefore, consists of reconstructing the line from kilometer 56 to 104 and adding thereto the remainder of the construction to Recuay. As the Meigs tunnels and embankments as far as Yurumarca are said to be in comparatively good condition, it is estimated by persons in a position to know that a year will suffice to put into working order the line as far as Yurumarca, which would traverse and throw open to exploitation the coal fields, which have of late attracted so much attention.

Specimens of the coal obtained in this department of Peru (department of Ancachs) were exhibited at the Louisiana Purchase Exposition at St. Louis, where they were viewed by a number of Americans interested in these matters. The valuable notes of the Italian naturalist Raimondi on the subject of the mineral and coal deposits of Ancachs Department are obtainable at most large libraries.

Ancachs Department (province of Pellasca) has the following mines in operation to-day: Coal, owned by Garagorri Hermanos; silver, Ticipampa, owned by Baron Chatelain; the Vesubio, owned by the Cafferato estate; the Parco, owned by Sousa y Pierola; the Colquipocro, owned by Juan Brayson; the Ciro Hudson, owner not given; the San Juan Itda, owned by Wertheman, and a mine owned by Chuecas Hermanos. There are also said to be auriferous deposits of some magnitude about the junction of the rivers Santa and Chuquica, which are worked primitively to-day by native Indians.

In the course of a very interesting article recently published by Señor Alejandro Garland, Peru's commissioner to the Louisiana Purchase Exposition, from which the above data are taken, mention is further made of great irrigation possibilities along the line of the new railroad, on the pampas or table-lands of Zaruma, Musapampa, and Chimbote, where there are from 6,000 to 7,000 fanegadas (9,340 to 11,130 acres) of irrigable land, showing traces of extensive cultivation in ancient times. The Santa River, it should be noted, has a constant supply of water, even in seasons of drought, a condition unusual among the coast streams of Peru.

SUPERIORITY OF AMERICAN SHOES.

In one of the responses to the Bureau's circular letter to the manufacturers of leather and boots and shoes is the following statement from a Cincinnati manufacturer:

The writer made a trip through Europe and Great Britain last year with a line of shoes, and at present is maintaining an office in London and has an agency in Hamburg. There is no question but that the American product is far superior to similar lines abroad, but it will be impossible under the existing tariff conditions to do any large amount of business in continental Europe with shoes. Germany brings them in by weight, the wooden cases paying the same amount of tariff as the contents. In France it is so much for a high shoe and so much for a low shoe, whether it be a lady's $5 boot or an infant's 40-cent kack. If it is a high shoe, it goes at one price, and if a low shoe, at another. The tariff is to blame for this situation.

EMPLOYMENT OF FEMALES IN LONDON.

In reply to instructions from the Department of State in regard to the employment of women and children in the manufacture of bottle caps in London and its vicinity, Vice-Consul-General Richard Westacott writes as follows:

Details connected with the condition prevailing in this industry are retained as trade secrets, and application for information is firmly, but politely, declined. From one firm, however, I learned that the hours of labor in their works are from 8 a. m. until 7 p. m., and 2 p. m. on Saturdays, allowing one hour for dinner and a half hour for tea. This firm employs women only, with the exception of a few men. Wages are paid for the amount of work done, and vary according to the department working.

CARE OF DELICATE CHILDREN.

Interesting experiments are in progress at Berlin and Charlottenburg, Germany, with physically weak children and others for whom fresh air is regarded as a necessity. These experiments are attracting attention and are receiving notice from the English papers. Consul Halstead, of Birmingham, writing of the movement, says:

Barracks, sheds, kitchens, etc., largely open to the wind and sun, are erected in the pine forest, and 120 boys and girls between the ages of 6 and 14 are brought by street car to the woods at 8 in the morning and remain there till half past 7 in the evening. It is stated that no lesson is longer than half an hour, and that the lessons are interspersed with ample time for recreation. The girls are taught to raise flowers and vegetables and the boys are instructed in tilling the soil and building. The kitchen arrangements are under the charge of a Red Cross nurse.

One liter of milk per day is allowed each child, and all are furnished luncheon, dinner, and supper of a wholesome, plain type. It is intended to keep the school open until October. The promoters are reported to be very well satisfied with the results.

A NEW EXPLOSIVE.

Vice-Consul Stephens, of Plymouth, England, writes about a new explosive which it is claimed will reduce climatic conditions:

It is reported that Messrs. Kynoch (Limited), one of the Government manufacturers of cordite, claim to have produced an explosive which retains the main constituents of cordite, but which because of ingredients added will reduce climatic effects by one-half. Instead of a round cord, as in cordite, a ribbon is the form of manufacture, and it is claimed that this explosive will not corrode the barrels so much as the older form, that there is less friction and consequently greater accuracy. Experiments have been made which show that after firing the new explosive the "deposit" does not injure the barrel if left in it for some hours afterwards.

RAILWAY CONCESSIONS IN NICARAGUA.

VALUABLE GRANT TO A CALIFORNIA SYNDICATE.

Consul Ryder, writing from San Juan del Norte, Nicaragua, says the proposed railway, for which a concession has been granted to a California syndicate known as the Nicaragua Finance and Improvement Company, is to consist of a main line from Sabana Grande (a small station on the line of railway from Managua to Granada) to Matagalpa and Jinotega. Branches are to be constructed to Esteli and to Boaco to connect with the proposed line, now being surveyed from San Miguelito, on Lake Nicaragua, to Monkey Point, the only really safe and protected harbor on the east coast between Port Limon and Bluefields. There is to be a branch from the main line at some convenient point to the Rio Grande and from there to Prinzapulca Port, about 85 miles above Bluefields Bluff.

The mileage of the proposed lines may be summarized as follows: Sabana Grande to Jinotega, 139; Matagalpa to Esteli, 40; Tipitapa to Boaco, 45; Matagalpa to Rio Grande, 114; Rio Grande to Prinzapulca, 30; Miguelito and Monkey Point Railway, 90; total, 458 miles. Other estimates add 25 per cent to the foregoing.

For the 137 miles of road which the California syndicate is to build it receives a bonus of 2,420,000 acres of land from the Nicaragua Government, at present valued at $148,907 gold.

The income from passenger traffic is expected to be very small, and the only freight to be depended upon for the present, at least, is the coffee crop of Jinotega and Matagalpa, about 4,000 tons annually. This product is now transported in ox carts to designation at an average rate of $1 gold per 100 pounds.

The company has the privilege of generating electricity for use on its railways from the Tipitapa Falls, located on Tipitapa River, whose outlet discharges the waters of Lake Managua into Lake Nicaragua.

ELECTRIC RAILWAY CONCESSION.

The company has also an additional concession which gives it the exclusive right to construct an electric railway from Managua, or Masaya, to Tipitapa, with suburban connections. Tipitapa is now connected with Managua by a regular steamboat service on Lake Managua, and, as the entire district has not more than 1,500 inhabitants, and Managua and Masaya have comparatively no suburbs, it is difficult to ascertain where the company expects to derive its income from the proposed electric line.

COLONIZATION AND RAILWAYS.

Numerous efforts have been made at various times to introduce foreign immigration into Central America. In 1865 a German colony was established at Matina, Costa Rica, and it is said that those who survived malaria and other diseases prevalent in tropical climates returned to Germany. Another attempt was made by the late Admiral Bedford Pim, who obtained extensive grants of land for the purpose at Monkey Point, where preliminary work for the construction of a railway is now being carried on. This also proved unsuccessful, and the land reverted to the Nicaraguan Government.

It is generally believed that the concession for constructing these various railway lines through an almost uninhabited country is in connection with another scheme to induce foreign immigration.

At all events, it will readily be seen that the proposed network of railways, unless liberally subsidized by the Government in a more substantial way than by land grants, can have little effect in opening up for colonization and agricultural purposes what are now almost inaccessible regions or for the development of its mineral resources.

GREEK EMIGRATION TO BRAZIL.

E. S. Lontos, vice and acting consul at Patras, Greece, writes:

Efforts are being put forth by a local steamship broker to recruit about 2,000 emigrants to go to Brazil. It appears that a syndicate comprising about twenty coffee plantation owners in Brazil (English and American) have entered into an agreement with an Italian agent by which the latter has undertaken to send 8,000 men to Sao Paulo to work on the coffee plantations in that State. It is alleged that the Brazilian Government has pledged itself to see that the obligations assumed by the syndicate will be fully carried out.

For such emigrants the following qualifications are demanded: Robust constitutions, freedom from membership in any anarchistic or socialistic league, and good characters. On the other hand, the syndicate assumes to grant emigrants, together with their families, where there are such free passage to Brazil.

Emigrants will be divided into groups of five male persons, to each of which group will be intrusted the care and cultivation of 1,000 coffee plants, for which each laborer will be paid, on an average, $400 per annum.

Each prospective emigrant must deposit $5 as an earnest of good faith. The first batch of 800 emigrants (men) will sail by special boat in July.

The Piræus agents of trans-Atlantic steamship companies oppose this emigration to Brazil, as it will lessen the emigration to the United States, which is conducted through said companies.

ELECTRIC SUPPLY OF DUBLIN.

Consul Moe, of Dublin, Ireland, writes:

The lighting committee of the Dublin corporation issued a report in which they recommend a reduction in the rates for general lighting and for the supply of currents for heating and for motive power. In the case of general lighting, the rates are to be reduced on the maximum demand system from 14 cents and 5 cents to 12 cents and 5 cents. The committee do not recommend any reduction in the 12-cent flat rate, as in Dublin there is an undue proportion of offices and early closing shops which only use the current from four to five months in the year, and are not profitable even at the rate of 12 cents.

For motors and heating currents the rates are to be reduced from 14 cents and 2 cents to 8 cents and 2 cents, with an alternative flat rate of 5 cents per unit. The committee reports a "steady increase" in the demand for motor currents though "too small to be satisfactory day load even for Dublin." They are completing an arrangement with one of the largest firms of motor manufacturers in the world for the adoption of a system of hire-purchase, under which motors will be supplied at very reasonable rates on the three-year installment plan. They believe this will satisfactorily affect the demand for power.

Flat rates per unit are recommended for certain consumers who use current for a considerable number of hours each day.

No concession is made to concert halls and other similar places of amusement, to "temporary buildings," or permanent buildings for "temporary purposes," or to churches and buildings attached thereto.

NATIONAL CELEBRATION BY ROUMANIA.

Mr. John B. Jackson, United States minister to Roumania, informs the Department of State that a national Roumanian exposition will be held in Bucharest next year in commemoration of various historical events. Minister Jackson says:

In 1906 eighteen centuries will have elapsed since Dacia was conquered by the Emperor Trajan, and the Roumanians claim that their race resulted from a fusion of the conquerors and the conquered. In 1866 the present King of Roumania began his reign as prince, and next year twenty-five years will have elapsed since Roumania became a kingdom. Parliament has voted 1,600,000 francs for work connected with the organization of this exposition, and the commissioner-general issued his first circular on May 28 and June 10. The exposition is intended to be one showing the product of Roumanian work only, especially the work of the inhabitants of the kingdom, although the work of people of Roumanian race living in and subjects of Austria, Russia, and Turkey is to be admitted. An exception is to be made to the general rule, however, and foreign exhibits are to be admitted

which have to do with agriculture. Space is to be provided for foreign exhibits of agricultural machinery of all kinds, as well as for apparatus used for the desiccation of fruit and the distillation of alcohol. An opportunity will also be afforded to exhibitors who may wish to plant and cultivate vegetables, etc., whose introduction into Roumania is considered possible.

PROPOSED NEW PRUSSIAN MINING LAW.

Consul-General Guenther, of Frankfort, Germany, furnishes the following on the proposed mining law for Germany and its probable effect:

The Prussian Government has presented to the Legislature a draft of an act to reform the present mining law. This act, if adopted, will remove many of the hardships which caused the great strike of the coal miners in the Rhenish-Westphalian district last January. The owners of the coal mines and the German coal trust, as also the Agrarian party, are bitterly opposed to the new bill, so that it is doubtful whether it will become law. If not passed, the German imperial chancellor will introduce the bill in the Reichstag (the Federal House of Representatives), where the Agrarian party and the coal trust have no dominating influence.

At a convention held last March, at Essen, by the chambers of commerce of the Westphalian and Lower Rhine industrial districts, the proposed reform act was the subject for debate, and a declaration was issued that "the governmental bill if passed would inflict serious injury upon Germany's industries, especially those that depend upon the export trade, and would also injure the agricultural interests." The new law would, the convention asserted, tend to greatly increase the cost of coal, thereby endangering the ability of German manufacturers and coal producers to compete in foreign markets. "One of the serious consequences of the passage of this new mining bill would be the strengthening of the Socialist party. The establishment of a sanitary maximum working day, and of boards of supervision and control to be in part composed of miners, which the bill provides for, would soon lead to the introduction of these measures into other industries. Therefore the convention prays the Prussian Legislature to reject the governmental bill."

During the debate on this bill in the Prussian House of Representatives Mr. Brust, who favored its adoption, said that the statistics for 1903 show that 70 per cent of all the miners working in the lignite coal mines in that year were taken sick, as were 67 per cent of those working in the iron mines of the Sieg district, 60 per cent of the coal miners in the Saar region, and 56 per cent in the anthracite mines of Lower Silesia. That the sanitary condition of the mining industries is deficient and is harmful to those engaged in mining is shown by the examination of conscripts for the army.

Mr. Brust confuted the arguments that the restrictions of the bill in regard to the working time would diminish production. He pointed to the results at several mines where the working day of twelve hours

had been reduced to eight hours. "Nor," he said, "is the allegation of unprofitableness in case of working-time reduction true, because many of the coal mines at present pay from 30 to 50 per cent dividends on their working capital, others from 10 to 20 per cent. Consequently it will do them no harm to relieve their operatives in a slight degree." The Prussian minister of commerce, speaking in favor of the bill, remarked that, on principle, he was opposed to fixing a maximum working day because he was unwilling to prevent an adult from earning all he can. But for sanitary reasons he considered it right to draw a line.

The new bill limits a day's work to six hours when the temperature in the mine exceeds 28° C. (82.4° F.), seven hours if above 26° (78.8° F.), and eight and a half hours if more than 22° (71.6° F.)

ADULTERATED SPIRITS IN ENGLAND.

Vice-Consul Stephens, of Plymouth, England, writes regarding the adulteration of brandy and other spirits in England. He says:

The method by which brandy is adulterated has just been published by a prominent firm of brandy distillers, the object being to put the public on guard. So general has become this practice of adulterating spirits, especially brandies, that publicans now display in their places of business a sign that they do not guarantee the quality of brandy they sell. Adulteration began with the failure of the grape harvests in the Cognac districts in 1876, and although the production of true brandy has decreased the shipments of supposed brandy have continued to increase. At first silent spirit (grain or potato spirit) was added to genuine brandy to make up the shortage. This was found a paying business.

Later on a concoction of silent spirit, colored and flavored to resemble brandy, was sold. The production was so cheap that the genuine distillers have, of course, been seriously injured. Adulteration is thus at work in all but the best brandies, since patent or plate stills take the place of the old pot stills by which alone brandy had become famous. Brandy as a popular drink has given place to whisky. Through the same fault, adulteration, practiced more in the past than at present, Irish whisky lost the market to Scotch whisky. The principal constituents of brandy—ethylic alcohol—is the same alcohol as that present in gin, rum, pure whisky, and all fermented beverages, so that the only chemical means of distinguishing a genuine from a fictitious brandy consists in the quantitative estimation of the other constituents of genuine brandy within definitely ascertained limits. These bodies occur in relatively small proportions, hence their identification and estimation has until quite recently been a matter of considerable difficulty.

CYCLE TRADE OF THE BRITISH ISLES.

Consul Moe, of Dublin, Ireland, writes about a proposed combine of cycle manufacturers, and explains why there is no demand in Ireland for American bicycles. The consul says:

Considerable discussion has taken place with regard to the proposed combine of the various cycle manufacturers in the British Isles. The object practically appears to be to make no bicycle to be sold under 8 guineas ($40.87), and it would seem that several firms in the big English manufacturing centers have already come to such an agreement. It is a movement against the production of inferior, cheap machines, and carries with it the question of how the trade will be affected. Inquiries elicited statements from several agents and dealers in Dublin that such a combination would be received with favor by all the best houses. In this city the chief demand is for good wheels, the 10 and 12 guinea ($51.10 and $61.32) machines having the best sale.

There is no demand here for American makes of bicycles. This is due to the generous guaranty which English makers give with their machines, which are very well made, and the apparent unwillingness of American manufacturers to supply their wheels with metal rims instead of the wooden variety. The great amount of dampness in Ireland at all seasons of the year makes wooden-rimmed wheels practically useless. The demand for bicycles has increased enormously, and it is no exaggeration to state that cycling here is as popular this year as it was in the United States in 1896 and 1897. There is a splendid demand for motor cycles, most of which come from Coventry at present and give entire satisfaction.

EFFECTS OF BAD PACKING.

Mr. Ch. Chaille-Long, in a comprehensive article published in the Washington Evening Star on the struggle among merchants of the great commercial nations for supremacy, adds another to the long list of delinquencies of Americans in packing goods for export that have wrought damage to American trade. After reciting the fact that the Daily Consular and Trade Reports make frequent mention of the lack of method in this particular, Mr. Chaille-Long says:

This fact was illustrated some time ago by the French Government, which purchased annually 15,000 hogsheads of tobacco in Baltimore. The administration, dissatisfied with the manner of the packing, protested again and again, but ineffectually. Finally, to punish the failure to respond to its suggestions, it reduced its order to 8,500 hogsheads as an object lesson.

GROWTH OF SUGAR IN MEXICO.

RAPID DEVELOPMENT IN VERACRUZ.

Consul Canada, of Veracruz, furnishes an interesting article on the cultivation and growth of sugar in certain of the Mexican states. The values given in the article are in Mexican silver, unless gold is stated. The value of the Mexican silver dollar on July 1 was 0.498. Owing to the fluctuations in silver values Consul Canada thinks a reduction in United States currency would be of no permanent value. By estimating the values at about one-half of those given in the article, an approximately just value, on an American basis, would be reached. His letter follows:

The State of Veracruz has lately developed into an important sugar-producing territory. My report for the fiscal year 1900–1901 states that 412 tons of sugar were exported from Veracruz in that year, the United States having taken almost the entire output, less than 2 tons having gone to other countries. During the fiscal year 1899–1900 only a little over 1 ton was exported, though the total production in the entire Republic was estimated at 80,000 tons and sugar to the value of $25,000 was imported. In 1901–2 not a single shipment of sugar passed through this port to foreign parts, but in 1902–3 the business began to assume large proportions and 8,250 tons were exported, of which amount England took the bulk, the United States receiving only about one-eighth of the total. In 1903–4 every sugar estate in the Republic was busily engaged in grinding, turning out mainly muscovado and centrifugal of 96°, for the English market. The estimate of the production of that year was 15,000 tons, while the estimate of the production in 1904–5 is 30,000 tons. The records at this consulate show that in the September quarter of 1904 sugar to the value of $1,337 gold was shipped to the United States, and in the December quarter, 1904, sugar to the value of $2,450 gold. In the March quarter, 1905, the value of sugar exported to the United States reached the sum of $254,921 gold.

It is evident that the sugar industry of Mexico has attracted the attention of many persons, for inquiries are frequently received here for information concerning the industry, from the cost of land to the cost of production. I have therefore procured, so far as it lay in my power, what I consider trustworthy data on these points, and give them herewith.

Mexican statistics show that in 1904, 38,668 acres were planted in sugar cane in the following eighteen counties in the State of Veracruz: Acayucan, Coatepec, Cordoba, Cosamaloapam, Chicontepec, Huatusco, Jalacingo, Jalapa, Minatitlan, Misantla, Orizaba, Ozuluama, Papantla, Tantoyuca, Tuxpam, Los Tuxtlas, Veracruz, and Zongolica.

The yield of sugar depends upon the location of the plantations. On the higher levels it is not so great as in the hot lands; 26 to 45 tons of cane per acre in the higher lands would be a fair production. The saccharine matter from this quantity of cane is 65 per cent of the weight of the cane, and the quantity of white centrifugal sugar produced runs from 7½ to 10 per cent or over—say, about 130 to 150 pounds of sugar per ton of cane.

VALUE OF LAND AND LABOR.

Nothing definite can be said as to the value of the lands. Wild, uncultivated lands suitable for planting cane cost from $5 to $20 and more per acre, but improved lands vary much in value, according to location, degree and kind of development, transportation facilities, and improvements. Land may be cleared and planted in cane at a cost of about $50 per acre. There are no irrigation works in the State of Veracruz; such systems as are in operation are privately managed and no official records of their operations exist.

The labor required is also a variable quantity, governed entirely by local conditions, methods employed, distances on the plantation, etc., but chiefly by the location. In the hot lands the harvest is short and a large force of men is needed to gather in the cane, while up in the higher ranges the harvest continues much longer and fewer men are required, although these work for a longer time. However, in the cooler regions the cane must be replanted every two or three years, and in the hot lands only every ten to twelve years. Labor, by reason of its scarcity, demands a higher price in the hot lands than in the more elevated and populous districts. In the latter from 50 to 62½ cents a day are paid, while on the isthmus the daily wage runs from $1 to $1.25.

All field labor is arranged on a piecework basis. That is to say, a laborer receives a certain price for the performance of a given amount of work or task. Naturally this price will vary in accordance with climatic conditions, being higher in the hot country than in the cooler regions. Although the cane is taller in the former, the weeds are much more troublesome. On the uplands about 43 cents is paid for the planting of 400 square yards in cane. For cleaning the cane fields, which has to be done four or five times before the cane is cut, 37 to 43 cents is paid for from 300 to 400 square yards, but this depends altogether on the condition of the plantation. If the work is easy, as many as 1,200 square yards are counted as a task, but under ordinary conditions a man will clean 1 hectare (2.471 acres) in three days. A task for cutting cane is reckoned as from 50 to 60 bundles about a yard in circumference, containing usually 20 canes. The pay for this work is 37 cents. One man ought to cut 1 hectare (2.471 acres) in about five days.

The local labor supply, when insufficient, is increased by aid of labor contractors, with whom arrangements can be made to furnish gangs of workmen from other parts of the country. The usual method is paying a bonus and so much per day for a stated time. Convict labor is frequently so obtained.

METHODS OF PLANTING.

For the purpose of giving information as complete as possible on the planting, cultivation, and cutting of cane, as well as on the results and yield of sugar and aguardiente, I submit the following reports from several well-established sugar estates in this consular district, all owned and managed by Mexicans well versed in the business:

Plantation A.—The total number of acres owned by this company is 14,386, valued at $2,700,000, of which 2,484 acres are planted with cane. The production during normal years is from 8,000 to 10,000 arrobas, or, say, from 200,000 to 250,000 pounds of cane per hectare

(2.47 acres). The quantity of sugar produced is equal to about 9 per cent of the weight of the cane, and the estate has a capacity of 7,500 tons of sugar for the season, which is put on board cars at a cost of 2 cents per pound. The value of the sugar making and distilling plant is put down at the following figures: Buildings, $424,613; machinery, $870,686; railroad, $242,019; furniture, implements, and tools, $23,800; live stock, $11,740; carts, drays, etc., and wheelwright shop, $9,325; empty packages, sacks, etc., $12,826. The distilling department has an apparatus for the production of aguardiente with a capacity of 8,000 liters (2,113 gallons) daily. About 100 persons are employed permanently, but during the harvest season 800 are employed. The daily wage ranges from 87 cents to $1, but all work is done by the task. Labor is to be had in the vicinity, but the company prefers to bring it from other parts, and the laborers usually return every season. Labor is secured by contract, directly by the company or through its employees.

Much trouble has been experienced on this estate on account of inadequate machinery, bad management, and the periodic overflows of the Papaloapam River, on the banks of which the plantation is located; at present, however, everything is running smoothly. The Government is now engaged in studying plans for the prevention of these periodic inundations, and once these difficulties are removed this estate, and all others in the same zone, can produce centrifugal sugar at 40 cents per arroba (25 pounds), at which price, as the report states, no country in the world can compete. The management will take pleasure in demonstrating the correctness of these figures to any one desirous of investigating.

Plantation B.—This estate has an area of 1,912.5 acres, of which 714 acres are rented. That portion of the estate held in fee simple is valued at $30,000. The value of the buildings, movable property, animals, etc., is reported as $75,000, and the machinery is worth $130,000. An area of 714 acres is planted with cane, and produces 62 tons of cane per hectare (2.471 acres). The quantity of sugar produced is 225 pounds from every 2,500 pounds of cane, and 70 liters (18½ gallons) of aguardiente of 30° from every 2,575 pounds of cane. The total yearly production of sugar is 175 tons, and of aguardiente of 30°, 11,690 barrels of 70 liters (18½ gallons) each. The total cost of production of the sugar put down at Veracruz is 63¼ cents for 25 pounds. There are no other products than those mentioned.

Fifty laborers are permanently engaged, but during the harvest season over 100 men are engaged. Of these, 50 are employed in the fields and from 50 to 60 in the refinery. Permanent laborers get $1 per day; the others are paid at the rate of 75 cents per ton of cane cut. All labor on this estate is from the neighborhood, and is voluntary. The plantation is situated some 50 kilometers (31 miles) from Veracruz, and 1,200 meters (3,937 feet) from the railroad station, with which it connects by means of a branch railroad belonging to the estate.

Plantation C.—This estate has an area of 4,336.6 acres, which are valued at $30,000. Of the total acreage, 1,235.5 acres are planted with cane, and an equal area is utilized as pasture land. The annual production of cane amounts to 75 tons per hectare (2.471 acres), and the yield of sugar is 10 per cent of that of the cane. The total annual production of sugar is 3,750 tons. The cost of production, about

2 cents per pound. There are 500 head of cattle on the estate. The permanent employees number 250, but during the harvest season 400 are employed—250 in the cane fields and 150 in the refinery. Labor is procured from the State of Oaxaca, and is paid at the uniform rate of $1 per day, contract for six months, more or less.

HYGIENE AND TEMPERANCE IN IRISH SCHOOLS.

The success that has attended the teaching of hygiene and temperance in England in primary schools has suggested the introduction of the plan into Irish schools. On this subject Consul Moe, of Dublin, writes:

The movement in favor of teaching the principles of hygiene and temperance in the primary schools is, despite some drawbacks, making headway in England. It has lately been suggested that similar instruction be established in the Irish schools, and such a movement is likely to take definite shape shortly. The health of the individual is a matter which concerns more than himself; it is of importance to the entire community. Intimately associated with the question of health is that of temperance, and it is felt that nowhere can the importance of these two subjects be better taught than in the schools. If the child can early learn the lessons of health, the necessity for cleanliness, fresh air, and exercise, he can also be made to understand the principles of temperance when clearly demonstrated to him by the teacher. The abuse of alcohol is one of the most potent factors in the physical deterioration of the human race. The insanitary houses, insufficient food, foul atmosphere, long hours of work, and monotonous lives which are the lot of so many of the poorer classes, produce depression which seeks relief in nerve stimulants. One way of meeting this evil would be to remove the causes which predispose to drink. Another means is to attack the drink problem, as it exists, and this could be most effectively done by teaching its evils to the children. The methods of instruction in these subjects, as pursued in the American schools, will, in all probability, be followed in England and Ireland. The inculcation of these subjects in the Irish schools means a new, healthy influence in the homes as well as a benefit to succeeding generations of the Irish people.

FORMATION OF COAL AND PETROLEUM.

COMBUSTIBLE FOSSILIFEROUS MINERALS.

The chief engineer, M. Lemaire, in charge of the mines of Montvicq, department of Allier, has recently made an interesting communication to the Society of Mineral Industry, in which he advances a theory of the formation of combustible fossiliferous minerals—that is, coal, mineral oils, etc., in their various forms.

M. Lemaire began by explaining that the transformation of vegetable growth into combustible minerals was the result of the action of microbes. The ferments (aerobis; air-breathing, microscopic organisms), active in the marsh bed at not too great depth, have set free

principally carbon dioxide (CO_2); the others (anaerobis), found at the bottom in the less aerated water, have especially set free methane or marsh gas (CH_4). The enriching in carbon which has been the consequence of the freeing of these gases has varied with the composition of the vegetable matter, the antiseptic condition of the surrounding mass, and all circumstances which may have influenced the progress of microbic action, such as excessive pressure, high temperature, dryness, and electric currents, all of which would have the effect of retarding this action.

Animal or vegetable matter introduced by the winds or streams is thought to have modified the ultimate nature of the combustible formed, sea grass giving peat bogs; pollen, cannel coal; organic matter, bituminous schists. During the transformations not only did gases emanate—carbon monoxide (CO_2), methane (CH_4), carbon dioxide (CO_2)—but also some liquids appeared whose antiseptic action may have arrested fermentation. These disengaged liquids formed petroleum and asphalt.

The action of microbes is a generally recognized fact; why can we not yet recognize it as sufficient to explain the formation of combustibles? It is because we can not, by experiments, reproduce the process of enriching vegetable deposits in carbon as it goes on in nature. We can only say that at the time of these transformations the temperature was not higher than 140° F. CO_2 and CH_4 were thus produced, but by slow combustion and without interruption, the fermenting substances being cooled by the surrounding water. This amount of heat may have had some influence on the geothermic degree of coal-bearing measures.

Once the manner of the transformation is admitted there remains the study of stratigraphic conditions of coal deposits. In analyzing the phenomena of alluvial deposits and matter brought by streams, the engineer recognizes what he calls "conic formation," and sees in it the most usual way of the formation of coal basins, which are covered afterwards as the depressions fill up, and are affected by the orological movements, slow or rapid. The layers of coal have been formed by series of intermittent floods, which explains the sterile intercalations in the layers of the veins of the same bed; they have taken the form of the preexisting talus and have been subject to all its vicissitudes.

M. Lemaire shows us that his theory excludes neither that of M. Stanislas Meunier of the formation of fluvial beds, nor M. Breton's, M. Grunner's, M. Fayol's, nor that of M. Grand 'Eury on the same subject.

COAL FIELD OF THE LOIRE.

Applying the theory to the basin of the Loire, M. Lemaire explains thus its formation: The coal field of the Loire has been formed by the filling up of a depression which had about the shape and actual size of the Lake of Geneva, except that its original depth was much greater. This depression was filled up by the débris deposited by the rivers entering from the northern side, principally around the basin of St. Etienne, and flowing from west to east; they at first formed the layers of Rive-de-Gier in the shape of a gutter peculiar to this narrow and prolonged portion of the basin. These layers, with their charge of volatile matter, decreasing from west to east, indicate that this was also the direction of the whole current. After the deposit of the layers of Rive-de-Gier came the geyseral eruption of St. Priest, which

left its traces in the banks of pudding-stone of the beds of St. Chamond; these are found in the St. Etienne basin, and theoretically those of Rive-de-Gier should also be found to contain volatile matter, though but little.

During the depositing of the layers of St. Chamond a transverse slide stopped the flow of water on the side of Rive-de-Gier. The flow must then have taken a reverse direction to the Furan River, because we can see the conic formation converge in this direction, and the depression narrowing more and more, the upper coal beds were finally deposited in a lake of very much reduced dimensions lying south of St. Etienne.

We must consider this communication in connection with another concerning the same subject recently presented before the Geological Society of France by M. Douvillé, who exhibited some nodules, prepared upon thin plates, found in the coal mines of Yorkshire, England. These rocks are of a very regular stratification, and contain shells accumulated in large beds, as bodies are when carried and deposited by currents. Fragments of wood are very frequent. These accumulations of vegetable remains are indisputably the result of their carriage to the sea.

The observations of M. Douvillé come to the support of the theory of the formation of coal by transport, which it still seems difficult to admit so far as the basins of the north are concerned.

POPULATION OF CHINA.

Estimates of the population of China are varied and generally unreliable. The latest authoritative attempt to get at the actual number of people in the Empire has been made by the officials of the imperial maritime customs and published in the report for 1904. The following estimate, furnished by Consul Anderson, covers the treaty port provinces in detail:

Province.	Population.	Province.	Population.
Fengtien	16,000,000	Kwantung	32,000,000
Chili	29,400,000	Kwangsi	8,000,000
Shantung	37,500,000	Yunnan	8,000,000
Szechuan	79,500,000	Total of other provinces (Shansi, Shensi, Kansu, Honan, Kuichau)	55,000,000
Hunan	22,000,000		
Hupeh	34,000,000		
Kiangsi	22,000,000	Total population of Empire	432,000,000
Anhwei	35,800,000		
Kiangsu	21,000,000		
Chekiang	11,800,000	Total population of treaty ports	7,012,000
Fukien	20,000,000		

It is probable that the figures generally are too large, although it is to be admitted that to assert that such is the case in any particular instance invites controversy, to say the least. The provinces little known to foreigners, Szechuan, Honan, etc., are the uncertain element. So good an authority on Szechuan as A. Hosie estimates the population of that province at 45,000,000, instead of almost 80,000,000 as given in this table. Missionary accounts, however, lean to the larger figure.

NEW VESSELS OF THE UNITED STATES.

The following new vessels of the United States have been officially numbered by the Bureau of Navigation, Department of Commerce and Labor, between July 1 and July 31, inclusive:

Name.	Rig.	Gross tons.	Material.	Where built.	Home port.	Owner.
Dan Patch	Gasoline sidewheel	25	Wood	Lavanna, Ohio	Cincinnati	Chas. H. Hewett.
Maggie E. Maguire	Schooner	38	Wood	Cambridge, Md	Baltimore	Cambridge Mfg. Co.
Joel D. Smith	Screw steamer	74	Wood	New Baltimore, N. Y	Albany	William P. Smith.
Alice R	Screw steamer	31	Wood	do	do	Hawley Miller.
Trenton	Screw steamer	517	Steel	Buffalo, N. Y	Buffalo	Allan I. Holloway.
Wm. D. Ames	Screw steamer	30	Wood	Lorain, Ohio	Cleveland	Frederick Driscoll.
Ossining	Gasoline screw	46	Steel	Newburgh, N. Y	Albany	Frederick S. Jenks.
Maywood	Screw steamer	398	Steel	Manitowoc, Wis	Marquette, Mich	Escanaba & Gladstone.
Alfred Noble	Screw steamer	50	Steel	Toledo, Ohio	Toledo	Craig Shipbuilding Co.
Cactus II[1]	Gasoline yacht	25	Wood	Long Island City	New York	Williams-Whittelsay Co.
Beulah Roy	Steam propeller	42	Wood	Vincennes, Ind	Evansville, Ind	Edwin B. Kuhn.
Hazel	Gasoline screw	26	Wood	Watertown, Mass	Boston	A. B. Murdough.
Clio	Schooner yacht	23	Wood	Boston, Mass	do	Wm. D. Turan.
Matilda	Schooner	102	Wood	San Francisco, Cal	San Francisco	John Erikson.
Daisy Mitchell[a]	Schooner	559	Wood	Fairhaven, Cal	do	W. A. Mitchell.
Augusta II[a]	Gasoline yacht	31	Wood	New York, N. Y	New York	M. Augusta Mills.
Ulana	Gasoline yacht	22	Wood	do	Hartford, Conn	Arthur E. Miller.
Helvetia[a]	Schooner	499	Wood	Terre Haute, Ind	Evansville, Ind	A. P. Barnett.
Louise	Gasoline yacht	27	Steel	Brooklyn, N. Y	New York	Donald McNeil.
George Weems (K.T.W.Q.)[b]	Screw steamer	349	Wood	Baltimore, Md	Baltimore, Md	M. L. W. Williams.
Frederick G. Bourne	Screw steamer	286	Wood	Newburgh, N. Y	New York, N. Y	Newark Bay Short Line.
Sweetheart (K.T.W.S.)[b]	Gasoline yacht	30	Wood	New York, N. Y	do	Chas. L. Seabury & Co.
Ampere	Side-wheel steamer	698	Steel	Newburgh, N. Y	Albany, N. Y	T. S. Marvel.
William Rowland	Screw steamer	129	Steel	Chester, Pa	New York, N. Y	Dominion Line.
Iolanda	Screw steamer	53		San Francisco, Cal	San Francisco, Cal	A. Paladini.
Sotoyome	Gasoline screw	534	Wood	Albion, Cal	do	Miles Standish.
Nettie Johnson	Side-wheel steamer	72	Wood	Memphis, Tenn	Memphis, Tenn	Nettie I. Johnson.
City of Columbia	Side-wheel steamer	189	Wood	Columbia, S. C	Georgetown, S. C	New York, Columbia and Georgetown S. S. Co.
Jessie Costa	Schooner	130	Wood	Essex, Mass	Provincetown, Mass	J. Manta.
Naoma	Gasoline screw	30	Wood	Boston, Mass	Boston, Mass	Geo. M. Bonney.
Wildwood	Gasoline screw	22	Wood	Greenport, N. Y	Somers Point, N. J	West Jersey and Sea Shore R. R. Co.
Ottawa	Stern-wheel steamer	77	Wood	Portland, Oreg	Portland, Oreg	O. W. Hasford.
Frank Perry	Screw steamer	496	Steel	Ferrisburg, Mich	Marquette, Mich	Frank Perry.
Tonopah	Naphtha screw	51	Wood	Boston, Mass	Philadelphia, Pa	J. F. Anderson.
Agnes[c]	Screw steamer	30				
William E. Corey	Screw steamer	6,363	Steel	Chicago, Ill	Duluth, Minn	Pittsburg S. S. Co.

[a] Seagoing vessel. [b] Signal letters. [c] Material, place where built, home port, and owner not yet reported.

BASKET MAKING IN FRANCE.

Under date of June 26 Consul-General Gowdy wrote from Paris:

The quantity of land in France used for the cultivation of osiers for the purpose of basket making has decreased within the last thirty years from 170,000 acres to 13,000 acres. Baskets are very extensively employed, the central markets of Paris alone using from $60,000 to $80,000 worth every year. Osiers to the amount of 900 tons, valued at $212,686, were exported in 1904, mainly to England and Germany, exclusive of ready-made baskets to the value of $646,375, in excess of the imports.

It would therefore at first sight appear that the greater portion of the osiers required for home and foreign consumption was supplied by the spontaneous growth of the uncultivated willows in France, but this is not altogether correct.

The basket-making industry, from observations extending over nearly sixty years, is subject to regular cycles of prosperity and depression. For six or seven years prices will advance and the market remain firm; then prices will decline for the next six or seven years, when the lowest point will be reached, and the market will improve for a similar period. Many peasants and small farmers, therefore, grow osiers during the good cycle, but when prices fall below a profitable limit grow potatoes or beet root instead. Owing to these frequent changes the osiers thus grown do not appear in the official returns.

THE INDUSTRY DISORGANIZED.

As there are no big firms having large amounts of capital involved the trade is in a disorganized condition, and efforts are being made by the departments of agriculture and commerce to restore it to a proper footing if possible. A distinguished political economist (M. Gaston de la Barre), who has a special knowledge of the subject, has been named Government commissioner to consult with the Paris syndicate of basket workers, and a botanist has been appointed to report on the most suitable varieties of willow to be employed. The French Government hopes that the efforts of these gentlemen will before long establish the industry on a sound commercial and scientific basis.

The peasant basket makers buy only small quantities of material at a time, and are not particular as to quality, provided the osiers are cheap. Some years ago two or three cargoes were sent from the United States, but they arrived during one of the "cycles of depression" and eventually sold at a loss. The experiment was therefore not repeated; but it does not necessarily follow, as M. de la Barre informed me personally, that there is no opening in France for foreign willows. Much, however, depends on the quality and price, for imported willows would be used by the large firms. The president of the Syndicat de la Vannerie, 10 Rue de Lancry, Paris, which is the chamber of basket makers, will give any information shippers may require, and it may be advisable to forward him samples before consigning large quantities.

DUTIES ON LINEN GOODS.

Consul McNally, of Liege, Belgium, says the German central bureau for the preparation of trade treaties directs attention to the striking difference between the American and German duties on linen goods. Collars imported into Germany pay from 17 to 25 cents a dozen, cuffs about 42 cents a dozen, while it is said the American duty is very much higher. Germany can compete in the United States only with the so-called "quality goods." These "quality goods" are, however, made of linen imported from England, and upon which comparatively heavy duties must be paid. The central bureau has inaugurated an agitation for the duty-free importation into Germany of those linens intended for reexportation.

ALCOHOL IN GERMANY.

HOW MANUFACTURED AND USED.

Consul-General Mason, of Berlin, Germany, in the annexed communication, corrects some erroneous impressions that have been created in this country regarding the materials used in Germany for the manufacture of alcohol for industrial purposes. The consul-general also contributes interesting facts regarding the use of alcohol for motor and industrial purposes. He writes:

From the number of inquiries which have been received recently at this consulate and which seem to have been inspired by press statements published in the United States, it is apparently believed there that alcohol for industrial uses is manufactured in Germany from peat, street garbage, and various other materials, and that the use of alcohol as fuel for motors, especially for automobiles, has been recently begun and is rapidly increasing to vast proportions in this country.

In reply to all these inquiries it may be said that alcohol is not made on an industrial scale in this country from peat or from garbage of any kind. Aside from the small amount that is produced for drinking and medicinal purposes from prunes, grapes, cherries, and other fruits, the great sources of alcohol for industrial and other uses are potatoes, grain, and the molasses derived as a secondary product from the manufacture of beet sugar. From the official statistics of the last year's campaign (September 1, 1903, to August 31, 1904) the following figures are derived, which show the total production of alcohol from each of the three materials during the year, in hectoliters of 26.429 gallons each: Potatoes, 3,045,605; grain, 692,483; beet molasses, 116,211; total, 3,854,299 hectoliters (101,823,470 gallons).

AS A MOTOR AGENT.

In respect to the use of alcohol for motor purposes, the following are the obvious facts:

Several years ago, when the motor vehicle for military and industrial purposes began to assume a new and extraordinary importance,

the German Government became impressed with the necessity of building motors which could be operated with some liquid fuel that could be produced in Germany, in the event that through the chances of war or other cause the supply of imported benzine and other petroleum products should be cut off. Alcohol offered the solution of this problem, and all the influence of the Government was exerted to encourage its production and its more extended use for motor purposes. Prizes were offered for the best alcohol-driven draft wagons for military and agricultural purposes, and all the great gas-motor builders gave great attention to perfecting engines specially adapted to the use of alcohol as fuel.

At the same time a powerful organization known as the Centrale für Spiritus-Verwerthung, with central offices at Berlin and branches throughout the Empire, was established, and began a systematic, persistent campaign to encourage and extend the use of alcohol for various industrial and economic purposes, especially heating, cooking, and lighting. Special exhibitions were held from year to year, which have been fully described in these reports, and in which were displayed the whole apparatus and process of alcohol production from potatoes, corn, and molasses, motors of various types and sizes for marine, agricultural, and industrial purposes, and a vast assortment of alcohol stoves for heating, cooking, ironing, etc., and lamps and chandeliers in endless variety in which alcohol vapor, burned inside an incandescent mantle, produced a light of high intensity and cheaper for rural districts of Germany than either electricity or petroleum.

The net result of all this systematic effort has been to extend so rapidly the use of alcohol for heating, lighting, and chemical manufacturing purposes that when the drought of last summer reduced somewhat seriously the output of potato alcohol, the previous surplus was exhausted and the price advanced until alcohol became too costly for economical use as fuel for motors.

ALCOHOL FOR INDUSTRIAL PURPOSES.

The consequence of all these conditions has been that while the general use of alcohol for industrial purposes, heating, lighting, and a vast range of chemical and other manufacturing purposes has steadily increased in Germany, the percentage of the whole product that is used for motor purposes is relatively small and, so far from increasing, is said to be rather diminishing, though to just what extent it would be difficult to prove. A few Germans, from patriotic motives, use alcohol for driving automobiles, freight wagons, motor boats, and farming machinery. A single department store in Berlin, which ordered its equipment of delivery wagons four years ago, during the height of the alcohol-promotion movement, still consumes yearly 80,000 liters (about 19,000 gallons) of alcohol for driving these wagons, but mixed, for greater efficiency, with about 15 per cent of benzole.

It has been found by elaborate tests that the economy of alcohol as a fuel for gas motors is largely increased by its being carburetted through admixture with a certain percentage of benzole or other product of mineral oil. For a time it was believed that this admixture of benzole could not be safely carried beyond 20 per cent, but more recent experience has shown that a mixture of equal parts of alcohol and benzole can be used, especially in large motors, with entire safety

and economical results. For automobile purposes the usual proportion is now about 30 per cent of benzole or gasoline, but at the present cost of alcohol it can not compete on the score of economy with mineral hydrocarbons in a country where they are either produced or imported free of duty.

There are now in use in Germany something more than 2,000 stationary or portable alcohol engines, exclusive of the spirit motors used in automobiles. They consumed in the campaign year 1903–4 36,000 hectoliters (951,120 gallons) of denaturated alcohol. Owing to the enormous potato crop of 1901 and the consequent overproduction of alcohol, the denaturated spirit of the grade used for motors could be bought in 1902–3 in any quantity for 15 to 17 cents per gallon, but for reasons hereinbefore stated this price rose in 1904 to 35 marks per hectoliter (about 31.5 cents per gallon), at which figure it became more expensive as motor fuel than gasoline.

Such is substantially the situation in Germany. The manufacture and industrial uses of alcohol were never so great, so important, and so varied as now. This general increase in the campaign year 1903–4, compared with the preceding year, was, according to the annual report of the Centrale, more than 2,900,000 gallons. But notwithstanding the fact that all the leading German manufacturers of gas engines and motor vehicles make alcohol motors that are technically successful, the question of price is the controlling consideration, and of the whole 3,854,299 hectoliters (101,823,470 gallons) of spirits produced during the last campaign year only about 1 per cent was used for motor purposes.

AMERICAN COAL AND ONTARIO MANUFACTURERS.

Under date of June 20, 1905, United States Consul-General Holloway, Halifax, Nova Scotia, transmits the following, which appeared in a recent issue of the Canadian Manufacturer:

During the last fiscal year 4,252,333 tons of soft coal were imported into Canada from the United States, practically all of which was taken by Ontario. Some of this coal was produced in Ohio and shipped across Lake Erie in vessels; the remainder was Pennsylvania coal, which entered Canada by rail via the Suspension Bridge route. After the duty has been paid this coal can still be sold at a considerably lower figure than that for which the Nova Scotia product can be delivered, owing to the cost of transportation and the royalty exacted by the government of Nova Scotia from its coal producers upon every ton of coal mined in consideration of the protection afforded them by the Dominion tariff.

From this latter feature arises much of the dissatisfaction of the Ontario steam users; they assert that they pay 67 cents a ton duty and get no return, as no Ontario industry is benefited by the tax which all have to pay. Neither do the Nova Scotia mine owners derive any advantage from the duty on this tonnage, as practically none of their coal goes to Ontario, and therefore their interests would not be adversely affected if coal from the United States were admitted into that Province free of duty. Petitions have been made to the Nova Scotia government asking that a remission of this fee be made on coal

shipped west of Montreal, but such requests have always been refused. If this royalty did not exist, the Nova Scotia coal might possibly reach some parts of Ontario, and to that extent displace the Pennsylvania and Ohio product.

This state of affairs has set the Ontario manufacturers to discussing the question as to why they should continue to pay a duty on United States coal for the benefit of Nova Scotia, when that Province refuses to put its own coal within their reach, and they insist that there will be no cessation of efforts to secure a more equitable arrangement.

PROPOSED COLONIZATION OF DARIEN.

Under date of June 8, 1905, United States Consul-General Joseph W. J. Lee, Panama City, Panama, in transmitting the accompanying translation of a scheme for the colonization of the district of Darien, proposed by Governor Gerardo Ortega, of the Province of Panama, says that the district to be colonized lies in the southeastern part of the Republic. It is very well watered, is an excellent grazing country, and is rich in minerals. Rare woods are found in abundance, and rubber, balsam, copaiba, and the mastic gum tree thrive on the hills and plains. The resources of the territory are very little developed, owing to the scarcity of inhabitants. The principal enterprise in the district is the well-known and prosperous Darien Gold Mining Company at Cana, which, in addition to mining, has extensive rubber and mastic plantations.

PROPOSED COLONIZATION SCHEME.

(1) Each foreigner who will undertake to establish cultivation of any kind or to raise herds of domestic animals in the district of Darien shall receive (*a*) 100 hectares of land [247 acres], and (*b*) an advance for transportation of himself and family and for seeds, implements, etc., of a sum not to exceed $1,000 (gold), it being understood that such loans shall be duly secured.

(2) Repayment of capital advanced shall be made without interest and in five annual installments, to begin when the first products of cultivation are realized.

(3) Panamans and foreigners resident in the Republic shall have the same rights and obligations as colonists coming from abroad, except that money shall not be advanced for transportation.

(4) Consuls of the Republic at places whence emigrants may proceed shall have the character of agents of immigration and colonization, and shall be instructed by the executive power accordingly.

(5) Colonists who abandon work upon their concessions for more than one year shall forfeit their rights thereto; upon transfer of the land to another, the latter party shall not enter into possession until the value of improvements, as assessed by appraisers, is paid.

(6) The colonist who, after five years, shall not have cultivated all of his 100 hectares [247 acres] shall lose the right to the uncultivated portion, but may retain the cultivated part.

(7) The executive power shall see that colonists and the workmen they may bring with them into the Republic shall be hard working, of good moral character, and of divers nationalities.

(8) As soon as the government shall consider it convenient, a suitable person will be named to inspect the progress of the agricultural colonies and fix values and standing. Pending his appointment, the respective alcaldes shall fulfill his duties. The monthly salary of this inspector shall be $300 gold.

(9) The executive power will contract with a suitable person to study, investigate, and report upon the agricultural capabilities, the geography, and the rural economy of the district of Darien, as well as matters relating to its industrial and commercial advancement. This report shall be published in pamphlet form with copies of the present law, and shall be freely distributed, especially abroad. Panaman consuls shall cause the most important points treated of to be printed in the principal newspapers in the countries to which they are accredited.

(10) There shall be ceded to each of the districts in Darien an amount of land to be included in a circle with radii of 5 kilometers [3.1 miles]. The center of the circle shall be the site for the principal town of each district. In this demarcation the vicinity of the river Tuira shall not be included. In these ceded territories the municipalities shall not impose any charges whatever upon agriculture.

(11) The executive power shall arrange with the ecclesiastical authorities for the establishment of missions in Darien, so that the indigenous Indian tribes may become civilized.

(12) The national treasury shall devote the sum of $255,000 gold to the purposes intended in this law, $250,000 to be devoted to immigration and transportation and $5,000 to the establishment of missions.

(13) The executive power shall issue whatever decrees are necessary to secure the fulfillment of this law.

(14) This law shall go into effect when duly sanctioned.

JAMES J. HILL ON TRADE REVIVAL.

UNITED STATES NOT GETTING ITS SHARE OF FOREIGN TRADE.

Mr. James J. Hill a few days ago gave his views on commercial affairs to a representative of the New York Herald. He sees no dangerous shoals ahead in business and financial channels, and therefore looks for any sort of a business boom. Mr. Hill thinks we are not making the best of our great natural resources from a business point of view. With a country richer than England or Germany, he thinks our fruits of trading are small compared with what they ought to be. On this point Mr. Hill said:

It is all very well to be content to swap jackknives with one another, but what is that but taking money out of one pocket and putting it in another.

Individual effort is restrained by political theorists and demagogue leaders. Compare our efforts with those of Germany. There the Emperor himself is at the head, guiding and fostering commercial

development. We are falling behind in the procession, and five or ten years hence this country will deplore the present policy of political interference locally and nationally.

We are dillydallying with South American trade and are trying to build the Panama Canal. What good will come of it? We have not the ships, and freight rates to the East are against it. We have not the protecting laws for a merchant marine. I myself have recognized that condition and shall certainly never again build a ship under the American flag.

Ships can be built cheaper abroad and operated more successfully, from a commercial point of view, under a foreign flag. There are too many hampering influences on commerce from governmental and individual quarters.

MARKETS IN THE ORIENT.

Mr. Hill discussed the markets in the East, declaring that wealth and commercial supremacy came from the sale of products to foreign countries, and that our merchants and manufacturers were faring badly in competition with other leading commercial nations, which he attributed to restrictive governmental and individual influence and negligence of our manufacturers and merchants. On these points Mr. Hill said:

Last year the South raised a bumper crop of cotton, some say 13,000,000 bales, and others more. The year before there was a crop failure, when less than 10,000,000 bales was raised in the cotton belt. Yet the crop gathered in the failure year netted the Southern planter $150,000,000 more than the record breaking crop of 1904. Why is that? Simply because we had not developed our own markets. The great East, with its millions of people, ready to take our goods, particularly the cotton goods, are shunned and tabooed to such an extent that they are cooperating against and boycotting American wares.

I do not want to appear pessimistic, but I would like to see more aggressiveness on the part of our merchants and some fostering care which a national government ought to give to its commerce. Let us have more common sense and businesslike methods in our national administration. Let there be a business awakening. If there is not it will be found that, self-satisfied as we are now, we will fall behind in the procession.

What is needed the country over is a great awakening; a sort of revival in its business methods in domestic and foreign trade, and a different and higher commercial standard or moral tone. This great awakening will have to come before we are a world power.

AMERICAN SCALES IN MARTINIQUE.

Under date of June 5, United States Consul John F. Jewell, Martinique, French West Indies, transmits the following translation of regulations recently promulgated by the authorities of that island in regard to American scales:

The Government informs interested parties owning American platform scales that these machines actually in the colony will be tolerated,

but they will be accepted for testing only in so far as they shall have been modified as follows:

(1) The indication of the power of each platform scales shall be expressed in kilograms on a brass plate set in the wooden upright (ordinance of June 11, 1844), or cut in or marked in relief on one of the side faces of the beam (decree of July 14, 1857).

(2) Every weighing machine must bear the name or the mark of the maker (ordinance of June 11, 1844).

(3) Every platform scales shall be designated by a number. This number shall be reproduced on all the parts of which it is made up (ordinance of December 28, 1871).

(4) The rod bearing the little receptacle for the weights must be divided into two parts, taking the shape of a fork, with a space sufficient for the placing therein of the regulation weights, which alone must be used.

From September 1, 1905, all platform scales that do not fulfill the above requirements will be seized and the owners will be liable to a fine.

DECADENCE OF BRITISH TRADE.

OLD METHODS OF DOING BUSINESS MUST CHANGE.

According to reports from our consuls in Great Britain there are evidences in the principal daily, as well as the trade, papers of Great Britain that manufacturers and merchants of the United Kingdom have taken alarm at inroads being made upon their foreign commercial fields by the Germans and the Americans. A writer in the financial and commercial supplement of the London Times discusses at considerable length the losses sustained by British trade, and offers suggestions calculated to prevent further loss in that direction. The writer calls attention to the difficulties of the exporter in the collection of money for goods sold. He pertinently says it is one thing to sell goods, but quite another to get the money for them, and that it is only those who have had large experience in foreign trade who have proper conception of the incidental difficulties. The appearance of Germans, Americans and others in fields heretofore held almost exclusively by Great Britain has brought about changes natural to the competition. When the foreign purchaser depended entirely upon the British importer, the latter could dictate the terms upon which his goods would be delivered; but the appearance of active competitors in the field has been instrumental in establishing a credit system which many of the British importers are loath to adopt. On this point the writer alluded to says:

"In the good old days when all the world bought from England our exporters had matters entirely their own way. The purchaser was obliged to obtain his goods, and in order to do so was willing, when desired, to pay cash with the order. Foreign trade generally was done on the basis of cash against shipping documents, and thus bad debts were practically unknown. Even customers of long standing did not get credit. There are still many firms who refuse to do business in any other way, but this clashing with the old traditions is a

sort of handicap now that all the world plays at shopkeeping. The man who holds the money calls the tune, and the seller must, perforce, dance as he is bid.

"ADVANTAGES OF OLD HOUSES.

"Of course there are many large London exporting houses who have their own permanent branches established wherever they trade. In fact the pick of their staff may be stationed away from home, the head office serving more as a clearing house than as an active participant in the trade. Such houses have far better chances of knowing the standing of their customers than those which periodically send out travelers can possibly have. Their officials are well paid, mix in good society, belong to all the clubs, and are in a position to obtain the earliest whispers of any coming trouble. Some of these establishments in India, China, and Japan are regal in their appointments and style, and will have innumerable local ramifications each systematically working its own area. But it is only a very large trade which can support such methods, and they are the outcome of long years of slow growth. They are not to be found in anything like the same degree on the Continent or in America; they are essentially British in character, and not to be matched by any other nation.

"Americans and Germans have not representative branches in the sense that many of our merchants have. They adopt the plan of sending travelers to make their markets, and undoubtedly their men are keen.

"They go after trade and trade they secure. But they take risks.

"Whether it is or is not sound business to do so might afford a pretty argument. The fact remains that when these countries wakened to a sense of their own possibilities they found us already established as the world's traders and in an apparently impregnable position. We had fostered trade our own way, and, because we could, we dictated the terms on which that trade should be carried on. When others came upon the scene they had not our position, they had not our information, but they meant business, and so they took risks. Where they could they got money in advance; where they could not they got it on delivery or gave credit. And because the world loves a little credit or the semblance of being trusted, it listened to their wiles and the first great blow was struck at our methods. As a nation we have had many heavy disabilities to fight under since other people entered into competition against us, the heaviest, perhaps, being tariff walls and bounties, but at the same time (and although we believe, and I think justly, that we could still undercut in prices were tariffs unknown) our business methods have not kept pace with the times. In the short space of twenty years there have sprung up from almost nothing two national turnovers rivaling our own. True, we have not quite stood still, but considering what others have done we have more than proportionately retrograded."

AMERICAN MEN AND METHODS.

The writer alluded to declares that the British exporter must take risks if he is to maintain himself in the foreign markets. On this point he says:

"If we wish to do the trade we must meet our competitors on their own ground. Whilst taking every possible precaution to prevent the

booking of orders from 'undesirables,' we must not offend the really sound traders. We must take a leaf from American methods. American travelers are not merely men with 'patter,' they are the pick of the staff in every way, and can be trusted to act only with discrimination. If they recommend an order for acceptance the home people do not worry further, but execute it, and trust to the long-sightedness of their representatives for their money.

"Generally speaking, the Briton is sounder in his trading than are his neighbors. He is more honest himself, he sells better quality of product, and he is very much more conservative. Each trade offers its goods in the accustomed way and on the accustomed terms, and if business is not done seldom deems it worth while to inquire whether any blame attaches to the accustomed ways. The American makes his terms to suit the individual buyer as far as he dare. He is not fond of taking 'wager' risks; on the other hand, he is essentially an elastic seller, and so long as he sees his money coming within a reasonable time he is open to deal. Much agricultural machinery has been sold on the installment plan in the colonies, while terms generally have been made very easy for the settlers. To some extent one or two home firms have at times done this, but not voluntarily, their hands having been more or less forced. The American is more of a gambler than the Briton, but on the whole he appears to make his ends justify his means. Yet he is not always so complacent when trading in this country; neither is the German. For even quite large parcels of materials cash against documents is often demanded, while cash at or within a week of delivery is often collected by an agency or representative. Of course we rarely buy their goods unless they are cheaper than we can produce ourselves, and knowing this Americans and Germans serve us with our own sauce.

"A BRITISH BOGY.

"The objection to methods of payment other than our accustomed one is of course the extra capital which they would involve. Many home firms plead that any other arrangements would mean leaving the export trade alone. They are largely creating their own bogy. An export trade with long credit is not desired by anyone, least of all by the American and German. But these people mean to get in, and they are prepared to do so by any means open. They believe in 'capturing' a market, and if it is essential that easier terms be given than we offer they give them. They do everything and make every move with a sole eye to business, and if it seemed good business in a transaction to go against every known trading axiom they would not hesitate to do so. In a great many instances a slight relaxation of our cast-iron rules would make all the difference. In the home markets we are generally keen and willing enough to make terms to suit a customer and find that by so doing our business tends to increase rather than to diminish. Why should it be different in our over-sea markets?"

WHY IS THIS SO?

Another writer, in the London Morning Post, discussing the decadence of British trade, notwithstanding the somewhat favorable returns of the board of trade, declares that British manufacturers are

not getting their fair share of the export trade of the world. In reply to the inquiry, "Why is this so?" the writer says:

"Some will reply that British exports are being strangled by hostile tariffs. Now, here we have a most striking exemplification of the danger of half truths. That a great deal of foreign trade has been lost to the manufacturers of this country by protective tariffs is beyond question, but this one obstacle to the development of British trade, serious as it is, does undoubtedly not account for the relatively small advance of British trade in neutral markets. A glance at the relative statistics of British exports to the colonies during the past decade, as compared with those of foreign lands, clearly shows this. In the case of colonial trade, at any rate, our manufacturers have not been hampered with hostile tariffs. Their competitors in Canada, in Australia, in South Africa do not owe such success as they have achieved to favoring tariffs. * * *

"The British manufacturer is an intense individualist. In other words, he is self-reliant to an extreme point. Self-reliance is a good quality, but if pushed to an extreme it becomes a positive defect. Taken in the mass there is to-day no lack of enterprise in British industry. The great natural resources of the United Kingdom are still being utilized to the utmost. But there is a sad want of cooperation among the captains and, it may be added, the rank and file of British manufacturers. This is self-reliance pushed to a dangerous point."

"LACK OF IMAGINATION.

"In addition to want of cooperation we are suffering to some extent from a characteristically British defect, namely, lack of imagination. Manufacturers in this country are too often unable to realize that, whereas forty years ago the trade-mark of British manufacture was sufficient to carry British goods all over the world, things are different to-day. How many British consuls have lamented in reports on trade the unwillingness of British firms to catalogue their goods in the language of the people to whom they are offered. Here is a sad want of imagination. A firm of manufacturers will spend, and very wisely, thousands of pounds in bringing their plant to the highest level of perfection, and will begrudge a few pounds for describing and pricing their goods in a manner intelligible to would-be foreign customers."

What the writer says regarding the unwillingness of British firms to issue catalogues printed in the language of the country in which trade is sought applies with equal force to many firms in the United States.

ENGLAND'S WOOL SUPPLY.

DEPENDENCE ON AUSTRALASIA.

The following facts about the situation as to the wool supply in England will be of interest to American farmers and manufacturers. It is from the Yorkshire Post, and was furnished by Consul Hamm, of Hull:

We face a new wool season with lighter stocks in the country than

we have ever seen. It has been a very common thing for a farmer to put away two to five years' shearing because he could not get what he considered a reasonable price, but during the past year the high prices ruling have been a sufficient temptation to induce everyone to sell. The shipments of English wool to America last year exceed all records excepting 1897, when large anticipatory shipments were made in view of the imposition of a duty on raw wools.

Commenting on the Australasian supply, the Post said:

It is estimated that of the increased exports of wool from Australasia at the end of the present season New South Wales will have contributed no less than 140,000 bales, valued at over $7,500,000. In the same State, it is also to be noted, the stock returns to the end of December show nearly 6,000,000 sheep have been added to the flocks in that part, bringing the total up to 34,531,000 head, an increase roughly valued at $15,000,000.

The most conservative estimates are that during the season 1905–6 the New South Wales clip will show an increase of no less than that in 1904–5, thus bringing the production of the State up to 790,000 bales, or about equal to the output in the wool year 1900–1901, and, assuming that growers are so fortunate as to make such prices as prevail to-day, this will mean to them an increase in money value of $15,000,000, to compare with the season just closing. It is further estimated that at the close of 1905 the flocks in New South Wales will stand at 40,000,000 head, a figure not reached since 1901, the lowest being in 1902, when the official stock returns put the sheep at 26,649,000. It is also to be remembered in reading these statistics that the season is already so far advanced as to make it highly improbable that the most adverse conditions will seriously affect the situation.

Latest statistics show that there were in Queensland at the end of 1904 11,192,938 sheep, as against 8,392.044 at the end of 1903, demonstrating that there has been a substantial movement in the right direction. There has also just come to hand from Victoria the census of sheep in that part of the colony, not previously taken since 1901. In the latter year there were 10,842,000 sheep in this part. Then came the depletion by the drought, and it was estimated that by the end of 1903 there were only 8,774,731 sheep. Now the official figures give the number at the end of last year as 10,168,000, and though the whole of the loss compared with 1901 has not been regained, the recovery has been no less wonderful than in other parts.

Stocks of wool are low, as also are stocks of finished materials, but no one dreams of replacing the latter on to day's basis of values, especially as we do not seem to be far removed from a time of reasonable prices to be brought about by a much more plentiful supply.

AN ESTIMATE OF THE CLIP.

The English wool clip was estimated as follows by the Post, June 29:

In round figures the 1904 English clip totaled 132,000,000 pounds, and this year's clip will be practically the same. This represents about 330,000 colonial bales, or about the quantity which used to be offered at a July series of auctions. If we reckon one quality with another the present English clip will be worth an all-round 24 cents per pound, this requiring $33,000,000 to lift. One has to strain imagi-

nation to think that America and the Continent combined are going to absorb this great weight of wool, and in their present temper home manufacturers are going to see a little farther before they follow the pace. The recent large purchases have not gone direct to American mills, and users abroad are not going all in a moment to be cajoled into paying the high prices demanded and stock heavily.

On the attitude of America on the wool question the Post of July 3 said:

So far as the immediate future is concerned we are in the hands of the Americans. They have taken the bit between their teeth and forced others to keep pace with them or do without further new supplies. What happens to-morrow, therefore, will be of their doing or as a consequence of a modification of their attitude. Present prospects are that they will be in the running again and maintain the position of first horse, simply laughing, as they did in May last, at the efforts of buyers from this center to get lots which they have earmarked for their own purposes. Whatever attitude Continental purchasers adopt it may be taken for granted that buyers for this center, with the object of the wool being used here, will not be led by the Americans, but will pursue a careful and moderate policy with an eye to possibilities in the not far distant future.

OUTLOOK IN LINCOLNSHIRE.

Consul Mahin, of Nottingham, on June 28, writes briefly in regard to the condition of wool in Lincolnshire. The consul says:

Linconshire farmers are reveling in the prosperity of this branch of agriculture. Perhaps no other county is benefiting so largely in the wool boom. Lincolnshire farmers are demanding and receiving as high as 30 shillings ($7.30) per tod (28 pounds). Five years ago the price was about $2.50 per tod. Then American orders, it is explained, started an advance which has continued to the present. It is predicted that the end is not yet reached.

One cause of the high price of Lincolnshire wool is its exceptional grade this year, the fleece being good in both quality and color. The American demand appears to be the chief cause. The Americans are quoted as outbidding English buyers. It is stated that the former have not bought much for several years, and are therefore bare of stocks. With such competition the situation is not considered promising for the English manufacturers.

But in spite of this condition the number of sheep in Great Britain is reported to be decreasing. The hope of English manufacturers appears to rest on Australia, where the flocks are increasing.

GERMANY'S FOREIGN TRADE.

The following particulars with regard to Germany's import and export trade from January to May, 1905, are taken from the statistics just issued by the German Statistical Bureau, and are furnished by Consul-General Wright of Munich:

Imports, 20,857,101 tons, against 18,224,577 tons and 17,579,274 for the same period of 1903 and 1904, being an increase of 2,632,524 and

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cost here.

One man who carries the mail 17 miles every day, a large amount of freight in small parcels, and passengers, is now arranging to use two automobiles for this work. These machines are very popular here with country physicians, and traveling representatives of business houses.

The trade in automobiles is certain to increase, the share the United States will receive depending upon the energy of our salesmen and the careful study of the wants of these people.

CALCIUM CARBIDE IN HUNGARY.

Consul-General Chester, of Budapest, reports on the use of calcium carbide in Hungary. He says:

As yet Hungary can not boast of a domestic calcium-carbide plant. Its supply is obtained from the six factories in Austria and the one factory of 7,000 horsepower at Jajce, Bosnia. A factory is being started at Jádvölgy, Bihar County, Hungary, where the experiments tried

hitherto have been unsuccessful. One kilo (2¼ pounds) of carbide yields on an average 300 liters (338 quarts) of acetylene, and costs, at present, 26 to 30 fillers (5¼ to 6 cents) per kilo, net weight, delivered at any station in Hungary; in the case of amounts under 10 meter-centners (1,000 kilos) the price is somewhat higher. Carbide in Austria is packed in 50 and 100 kilo iron or tin boxes and shipped air-tight. Hungary consumes over 1,600 tons of carbide yearly. The following table shows the origin of its imports:

Country.	Weight.	Value.
	Pounds.	
Bosnia	2,041,460	$56,273.18
Austria	341,933	9,760.44
Germany	440	15.43
France	440	15.43

AUTOMATIC BILLIARDS.

Commercial Agent Harris, of Eibenstock, Germany, furnishes an item that will prove interesting to billiard players as well as manufacturers. He writes:

I saw an automatic billiard in a German cafe recently which was a novelty in many respects. By dropping a small coin into a slot the balls were produced automatically from hidden pockets, and at the end of fifteen minutes they disappear from the surface of the table. In cafes and restaurants this arrangement does away with the services of a waiter and assures the landlord a true account of the time spent in playing as well as the proper pay for the same. The billiard is primarily intended for use by young people.

MANILA'S COMMERCIAL FUTURE.

Mr. Walter J. Ballard, of Schenectady, N. Y., writes to the Marine Review regarding the future of Manila as a great commercial point. Mr. Ballard says:

The insular government of the Philippine Islands is entitled to credit for the energy it is displaying in bringing the Manila harbor improvements to completion. Bids are called for the construction of two new wharves in the harbor—one 600 feet long by 70 feet wide, and the other 100 feet by 650 feet. Also a dock of stone and concrete. The latter is on the military reservation. Six or seven more docks are to be built. Notwithstanding the skepticism of Prof. Alleyne Ireland and others there is no doubt that Manila will eventually rival Hongkong as a shipping and trade center. In fact, in time Manila should outstrip Hongkong, which, though built on a barren rock, has become one of the world's chief seaports.

Already the Hill Line of steamships emphatically states that it will make Manila the distributing and collecting point for their trade with French China, the Straits Settlements, Java, Borneo, India, and Australia. This alone will open a new avenue for Philippine enterprise,

and American commerce with these countries will use the port of Manila to and from the Pacific coast to the Far East. The insular government is providing the facilities for handling cargo rapidly, the completion of which will bring business. It is just like trolley cars, telephones, electric lights, etc., the greater the facility the greater the use. England found that out when Rowland Hill started penny postage. Given completed harbor improvements at Manila the trade of the islands and our trade with the islands will improve and improve rapidly. Given the completed American Panama Canal and more American ships and the increase will be larger and far more rapidly increased.

FOREIGN CEREALS IN SPAIN.

Consul Bartleman, of Seville, Spain, reports 26,000 tons of wheat and barley were recently received at that port. Most of this grain was from Bombay, via Marseille, with minor quantities from Black Sea ports. The consul says:

In connection with these large importations, it occurs to me that possibly our products might also find a market at Seville, to which end I append the names of the principal houses now making these importations, and would suggest that those interested put themselves in communication with these firms. In order that such communications receive the proper attention and consideration by merchants here, the medium of correspondence should be Spanish, and quotations c. i. f. Seville.

It has been suggested to me that, if not in immediate want of barley or wheat, these firms may be in the market for corn, of which no shipments have arrived here so far.

Importers of and dealers in grain at Seville: Hijos de Francisco Clavero; Esteban González Fernández; Hijos de M. Fernández Palacios; Hijos de Francisco Ayala; Martin Alvarez; Pedro Salvador; Viuda de Francisco Sanchez Sobrino; José Delgado; Martin Arevalo.

VALUE OF EXPERT KNOWLEDGE.

A New York business man of large experience in the cotton trade writes to the Bureau of Manufacturers suggesting that none but expert manufacturers of cotton goods is fully competent to intelligently pass upon trade conditions in foreign countries, especially as these relate to cotton goods. The gentleman referred to fully recognizes that it would not be practicable for the Government to send such experts abroad unless there should be specific authority for so doing. It is pointed out that probably in no other line of manufacturing is more special information and technical knowledge necessary to push American goods in foreign markets than in the cotton-goods industry. The correspondent says:

It is frequently the case that a certain piece of goods of a certain finish will find a ready sale in one country, whereas the identical piece

of goods, unless in a totally different finish, will prove absolutely unsalable in another part of the same country. One merchant might spend thousands of dollars in sending samples all over the world with absolutely no chance of securing an order simply because he was not familiar with the special requirements of the various markets. Occasionally foreign merchants will criticise favorably or otherwise the samples sent them, but as a rule unless the samples meet in every respect the requirements of the market to which they are sent the merchants will pay no attention to them. I have known instances where hundreds of samples of a certain grade of goods have been sent to one market without success, and it was not until a salesman, thoroughly familiar with all the details of cotton manufacturing, visited and carefully studied the requirements of the market that any orders were received. A slight change in finish and put-up, made on the salesman's recommendation, caused the same goods to sell in large quantities and gain wide popularity.

Again, the tariffs on cotton goods are often complicated and require careful study on the part of the manufacturer before he can safely venture to introduce his goods without the risk of incurring fines in the custom-houses, which seem unfair and often exorbitant. Notable samples of this are the tariffs of Cuba and Argentina. The writer has known of numerous instances, in shipping goods to Cuba, where merchants have been subjected to heavy fines, which more than wiped out the profits on their sales, because they were not familiar with the requirements of the Cuban custom-houses. Many merchants, discouraged at the poor success of their friends who have experimented in exporting, take it for granted that they can not sell their goods abroad and are not willing to go to the expense of sending out a foreign salesman when they believe that they have practically no chance of getting any return for their money.

AMERICAN NOVELTIES.

In calling attention to articles that have appeared recently in some of the English newspapers on the promotion of British trade in foreign countries, Consul Halstead, of Birmingham, writes:

No other nation has so many articles for sale which, because of novelty or differences—generally improvements—from ordinary types of manufactures, need so much introducing. Because these articles seem so readily to fill a long-felt want in the United States, few of our manufacturers can be made to realize that there is necessity abroad for hard introductory work. An illustration may serve a useful purpose. I had put upon the subscription list of an American exporting paper the name of a merchant doing a large business with South American, West Indian, and British colonial countries. The export paper was full of advertisements of American novelties in clothes hangers, washing machines, kitchen conveniences, etc. The merchant was interested in them even personally. He ordered some for his own house, but his servants would not try them. They so disdained these newfangled things that they are now put out of the way in the attic. This is an illustration of one of the many difficulties which are met

with in efforts to introduce our manufactures here and in other markets. The feeling which largely prevails still in Europe, even in advanced England, that "what was good enough for their fathers is good enough for them," can be overcome only by persistent and insistent efforts of practical traveling salesmen or agents.

I know of hundreds of articles which a few years ago were American novelties, offered here by correspondence, etc., which are now standard articles of British manufacture, used generally in Great Britain, and competitively sold against us in other countries.

ALARM OF GERMAN WINE MEN.

AMERICAN PURE FOOD LAW AGITATES PRODUCERS.

Consul-General Guenther, of Frankfort, writes:

The German wine producers and exporters are alarmed over the action of our Agricultural Department in drafting a new law to prevent the adulteration of foodstuffs, wine, etc. They are making strenuous efforts to ward off what they call "this great danger to their interests." The various associations of wine growers and the chambers of commerce in western Germany have memorialized the German Government to intervene. Even United States consuls have received printed circular letters protesting against the application of the said law to shipments of German wine, which is claimed to be pure and wholesome.

The report of the chamber of commerce of Wiesbaden, just out, says:

"The new law drafted by the United States Department of Agriculture demands strict statements concerning the place of production of the imported foodstuffs and liquids; wine especially is put under strict regulations. Mixed wines, and wines having sugar added, must be declared as such, and may not bear the designation of well-known vineyards or wine districts."

The associations of wine dealers of the Rhine and Main regions fear that their exportation to the United States will be injured or perhaps totally wiped out by a law of this sort. This chamber has requested the Prussian minister of commerce to call the attention of the Government of the United States to the fact that the German laws on the traffic in wine contain such strict regulations as to make further annoyance to the exportation of German wines by means of United States regulations quite superfluous.

This broad declaration of the Wiesbaden Chamber of Commerce is not borne out by facts which appear in the frequent trials for wine adulteration in the German courts of justice, which go to show that while the public authorities are conscientious in carrying out the German law against transgressors, wine adulteration is a widespread evil in the Fatherland. Proof of this is furnished by the last published report of the chamber of commerce and trades of the Palatinate at Ludwigsbafen, which covers an important and extensive wine district of Germany. This report, in the chapter headed "Wine trade," has the following:

"The general condition of the trade in wine during the year 1904 was not very satisfactory. The chief cause for this unfavorable condition is, in the opinion of our expert informant, the unfair competition of the artificial wine (Kunstwein) which still comes on the market in large quantities. The numerous court trials for wine adulteration, which are inconsiderately called to public notice by the newspapers, hurt the reputation of the wines of the Palatinate materially. The complaints about these evils find unanimous expression in the reports which come to this chamber, and it is particularly remarked that these adulterated wines come from the northern part of Germany, which produces no grapes. To check this evil a rigorous supervision of the wine-storage depots throughout the Empire is demanded, especially in the nongrape-growing districts; also a strict supervision of the traffic in chemicals, raisins, argols, and tartaric acid, and that all wine producers and dealers be compelled to carefully keep books showing their stock and trade in wines."

The chamber of commerce of the district of Worms has also petitioned the government of the Grand Duchy of Hesse to induce the chancellor of the German Empire to take steps in order that the new regulations of the United States law be not enforced against wines imported from Germany, as the strict German laws afford ample guaranties.

TERRITORIAL CONCESSIONS IN COLOMBIA.

Consul-General Snyder writes from Bogota in regard to the rubber trade·

Henry G. Granger, consular agent at Quibdo, Colombia, informs me that President Reyes, in accordance with his programme of industrial, mining, and agricultural development of the country, has turned his attention to the great region watered by the Amazon and Orinoco rivers. This immense territory has never heretofore been of any practical value to Colombia, being inhabited by wild or semicivilized Indians, whose collections of rubber have always gone through the hands of traders of Venezuela or Brazil, thus yielding large annual commercial returns to these countries without contributing a dollar to the revenues of Colombia.

The rubber trees which form a large part of the forests of this region are principally what is known as "Para" or "Hevea brasiliensis," being the variety which brings the best price in the New York and European market. By special contract with the National Government what is considered one of the most important rubber-producing areas on earth will be absolutely controlled for the next twenty-five years by one Dr. Luis Cuervo Marquez, formerly attached to the Colombian legation in Washington, and a partner.

The contract imposes the obligation of paying an export tax of $1 American gold per 100 pounds of rubber gathered in the area comprised, of establishing two agricultural colonies within two years, of placing two small steamers in service at once, and of increasing the fleet by two more steamers within three years.

This concession is the most important that has been granted in the Amazon rubber country by any of the governments owning territory on this great river or its tributaries. It gives 98,800 acres in per-

petual ownership of any region that may be planted or cultivated during the twenty-five years of the concession and a monopoly of two great tracts, one between the Orinoco, Guaviare, and Vichada rivers, an area of 45,000 square miles, the other bounded by the rivers Guarnia, Negro, and Baupes, over 100,000 square miles. The contract is for all kinds of development in the region covered, and includes the shipping of cedar, mahogany, and wild cocoa, all of which are found in abundance. The large natural pastures found at intervals make cattle raising a possible feature.

From the tax on the present product the Colombian Government will derive an income of some thousands of dollars per year, which will be increased as exploitation goes on. This undertaking can not fail to be of interest to the American rubber trade, and it is to be hoped that American shipyards will build the steamers required.

GERMAN TARIFF AND LEATHER INDUSTRY.

On the new German tariff law and the commercial treaties recently concluded with foreign countries the Offenbach Chamber of Commerce expresses pessimistic opinions. Offenbach is the seat of fine leather industries. Consul-General Guenther furnishes the declaration of the chamber, which follows:

For a number of years past the forming of our tariff, as affecting commercial relations with foreign countries, has engaged our attention and activity to a high degree. Both on our own account and to satisfy the inquiries of the Government we have worked arduously in finding out the actual wants and wishes of our industries concerned in the export trade. Verbally and by written memorials, while the negotiations for the new treaties were pending, we have presented our views as to what was needful and what we must obtain from foreign countries so that our position in the markets of the world should suffer no impairment. Greatly to our sorrow all these efforts have proved unavailing, and the outcome of the commercial treaty negotiations exceeds the worst of what we feared. While we knew that the agrarian interests would dominate the German proceedings, we did not expect that this would be done by sacrificing a large share of Germany's exports.

We fear that a large part of the numerous specialties of German manufacture, chiefly such as are produced in our district, will, under the operation of the new treaties, lose foreign markets. As evidence, note the fact that under the new treaty Austria-Hungary levies double and treble the tariff rates on fine leather goods which the German tariff schedule does. There is much cause for complaint concerning all the treaties.

Nor can we comprehend how it can be compatible with Germany's national welfare that our exports shall diminish when at the same time our increased importation of food stuffs for our annually increasing population will make larger demands on our pockets to pay for them.

Among other views on numerous domestic questions, the chamber expresses itself in opposition to the trusts and commercial combines in

raw materials and staples, believing them to be hurtful to Germany's economics. It also asks for legislative measures to abolish the existing abuse of bribing commercial employees, and favors a reform of the bankruptcy law. The chamber strongly opposes the Government's proposition to levy a tax on vessels engaged in river traffic.

GERMAN MEAT INSPECTION LAW.

Consul-General Guenther has in former reports quoted some of the many protests and complaints which the press and industrial interests of Germany have raised against the meat inspection act, which, as alleged, was instituted only to benefit the landed gentry at the expense of the multitude of consumers, especially the working people. Though this law has been in force for more than two years, the complaints still continue. In fact, the hardship is becoming more sharply felt as the prices for meat products are advancing higher and higher. One of these protests comes from the chamber of commerce for the city and district of Ulm, which represents the economic interests of the eastern part of the Kingdom of Württemberg. In its annual report, just published, the chamber says:

Lard: As far as the wholesale trade in this article is concerned, the United States dominates our markets, the domestic supply being insufficient to supply the domestic demand. The conditions prevailing here, especially the advancing prices for hogs, influenced the American lard market; still, in spite of the increased prices, the demand for lard continued. American standard brands are exceedingly popular with all dealers and consumers.

The inspection by the authorities acting under the meat inspection law is generally felt to be hindering the trade, and is held to be useless. The fees charged for inspection are disproportionately high, in addition to which the inspection process takes six to eight days; meanwhile the consignor can not dispose of the lard.

GERMANY'S EXPORTS TO SPAIN.

A letter from Consul-General Guenther, of Frankfort, Germany, says:

The German "central bureau for the preparation of commercial treaties" has published a bulletin in which attention is called to the large increase of German exports to Spain since 1899, when the "most-favored nations' clause" was established between the two countries. This will expire July, 1906, notice to that effect having been given. The bureau is now much concerned that a new arrangement may be perfected with Spain in order that German exportation thereto may not be disturbed. The bulletin says:

"Germany's exports to Spain have increased from $5,878,600 in 1898 to $13,837,800 in 1903, an advance exceeding 130 per cent within five years. The exports of machines, instruments, vehicles, bicycles, etc.,

within said period have increased fivefold; numerous other branches of our manufacture also show large gains in their sales to Spain, and it is to be hoped that a new commercial convention will soon be concluded which will enable Germany's export trade to continue in the future this course of prosperous development."

FOREIGN COMMERCE OF THE UNITED STATES.

THE LAST EXCEEDS ANY PREVIOUS YEAR.

The Bureau of Statistics, Department of Commerce and Labor, has issued a preliminary statement showing the value of imports and exports of the United States for the year ending June 30 last. It appears that our foreign commerce for the year just ended exceeded that of any preceding year, having been $2,635,970,333 against $2,451,914,642 for 1904, the banner year. Details for the twelve months are not available, but examination of the complete figures for the eleven months ending with May enables the Bureau of Statistics to determine the articles in which the principal increase or decrease occur.

On the import side the largest increases occur in the classes manufacturers' materials, wholly or partially manufactured, in which the figures will be about $70,000,000 in advance of those for the preceding year, and in luxuries and other articles of voluntary use, which seem likely to be more than $15,000,000 in excess of the figures of 1904. Articles of food and animals have increased by over 45,000,000, and manufactured articles ready for consumption have fallen off about $4,000,000, as compared with 1904. These figures indicate the increasing ability of the United States to supply its manufactures and its growing reliance upon other countries for certain of its food products and materials for use in the manufacturing industries. This view is strengthened by an examination of the statistics of articles imported.

The principal articles which showed decreased importations during the eleven months ending with May, 1905, as compared with the corresponding period of the preceding year, were manufactured articles, including chemicals, cotton goods, feathers, fiber manufactures, glass and glassware, iron and steel manufactures, metal manufactures, and wool manufactures. Tea, cocoa, and vegetables were the only important food products to show a decrease, while the importations of breadstuffs, coffee, fish, fruits and nuts, provisions (including meat and dairy products), spices, and sugar were materially larger than those of the preceding year. Raw and partially manufactured articles imported for use as manufacturers' materials show increased importations, especially copper, cotton, undressed furs, india rubber, lead, paper stock, raw silk, tin, unmanufactured tobacco, unmanufactured wood, and unmanufactured wool. Coal importations are about 1½ million dollars below the figures of last year.

SHOWING OF THE EXPORT FIGURES.

On the export side there is a decrease of over $53,000,000 in agricultural products, but this is more than offset by a large increase in exports of manufactures. The less important classes, products of the forests and the fisheries, show a slight net decrease as compared with 1904.

The articles showing the largest increases in exportations during the eleven months of 1905 for which details are available are: Corn, an increase of $16,000,000, as compared with the corresponding period of 1904; copper manufactures, an increase of $25,000,000, about one-third being in exports to China, where large amounts of copper are in demand for coinage purposes; cotton manufactures, an increase of $22,000,000, principally in exports of cotton cloths to China; raw cotton, an increase of $9,000,000 (during the twelve months); iron and steel manufactures, an increase of $23,000,000; hops $2,000,000; leather and manufactures thereof, $3,000,000; oil cake and meal, $4,000,000; oils, mineral and vegetable, $5,000,000; rice, $2,000,000; spirits, wines, and malt liquors, an increase of $500,000; tobacco manufactures, a little more than $500,000, and wood manufactures, an increase of less than $500,000.

The principal articles showing decreased exports are wheat, a reduction of $32,000,000 (twelve months' figures); wheat flour, $28,000,000 (twelve months' figures); fruits and nuts, $5,000,000; provisions, $5,000,000 (twelve months' figures), and unmanufactured wood, a decrease of $6,500,000. The reduction in exports of wheat and wheat flour was due in part to the inadequacy of the domestic crop to furnish any considerable surplus over the home requirements and in part to unusually large crops in foreign wheat-producing countries. Exports from the United States of wheat, during the fiscal year just ended, have been even lower than the year before. In the two foremost European grain markets—the British and the German—the leading position has been taken by wheat of Russian and Argentine origin, wheat imports from the United States showing unusually low figures for the period under consideration.

COMPARISON FOR SIX YEARS.

The annexed table shows the foreign commerce of the United States for the several years named:

	Imports.	Exports.
1900	$849,941,184	$1,394,483,082
1901	823,172,165	1,487,764,991
1902	903,320,948	1,381,719,401
1903	1,025,719,237	1,420,141,679
1904	991,087,371	1,460,827,271
1905	1,117,507,500	1,518,462,833

FOREIGN COMMERCE IN CHINA.

A communication from Consul-General Guenther, of Frankfort, Germany, states that, according to statistics received there of the administration of China's marine customs, the reports of arrivals and clearings at Chinese treaty ports in 1904 were as follows, by nationalities:

	Number vessels.	Tonnage.
British	31,298	32,993,873
Chinese	146,865	14,767,971
German	6,841	7,602,304
Japanese	5,755	4,290,350
Scandinavian	1,528	1,349,868
American	27,716	924,809
All other	8,836	1,905,531

AGRICULTURAL MACHINE MANUFACTURE AT MANNHEIM.

Consul H. W. Harris, of Mannheim, furnishes an interesting communication regarding the manufacture of agricultural machinery. What the consul says in explanation of the methods pursued by the manufacturer in the manufacture and sale of his machinery might be profitably followed by American manufacturers. The Mannheim manufacturer closely studied what was needed in the fields in which he proposed to enter and made only such machines as were required, paying particular attention to simplicity of construction, durability, and cost. Consul Harris's letter follows:

The Mannheim consular district has for several years past been an important center for the manufacture of agricultural machinery. Of the several factories in the district that of the late Heinrich Lanz is by far the most important. The business was started by Mr. Lanz about forty years ago as a small repair shop, with but two workmen. It has since grown into one of the largest concerns of its kind in Europe, and employs from 2,800 to 3,000 workmen, besides 350 men in its office and sales departments.

The manufacturing plant is modern and covers a large area of land and is said to have in use more than 1,300 different machines, its engines furnishing 2,600 horsepower. The rate of wages paid was made the subject of a former report. (Consular Reports for March, 1904, No. 282.) It is claimed that the rate is somewhat higher than that usually paid for the same class of labor in this locality. The concern has a savings bank department for its employees and various funds set aside for the aid of workmen and their families, to which was recently added a gift of 1,000,000 marks ($238,000) from the widow of Mr. Lanz and 4,000,000 marks ($952,000) provided for in the will of Mr. Lanz.

The Lanz concern has made a specialty of the manufacture of thrashers, portable engines, and horsepowers, though feed cutters, hay presses, cream separators, and other machines have been built and sold in large quantities. The thrashers include not only complete steam thrashing outfits, of which more than 10,000 have been sold, but small power machines, and even those operated by hand and without separators. Thousands of simple old-style horsepowers have been placed on the market at a low price, with doubtless a fair margin of profit, these powers being used in all parts of Europe for grinding feed, sawing wood, thrashing grain, etc.

The thrashers are built with reference to breaking the straw as little as possible and with other conditions required in Germany and many other parts of Europe. At the close of 1904 458,000 of the various machines, besides 15,980 portable engines, had been sold. Though not a pioneer in the invention of new machinery, Mr. Lanz is said to have had 130 different patents on machinery and had taken 350 prizes and diplomas at fairs and expositions where his machinery was exhibited.

The success of Mr. Lanz as a builder of agricultural machinery lay in the fact that he built the type of machines which he saw the European market required, and avoided embarking in the manufacture of

harvesting machinery, clover hullers, and certain other machines in which he frankly admitted the American manufacturer stood far in the lead. Simplicity of operation and durability, even sometimes at the expense of clumsiness, characterize his machines. He was a careful student of the markets into which he went, and made it his chief concern to manufacture such machinery as he found in use or easily introduced.

While his catalogues describe machines that would make a Dakota wheat grower smile, and which the American manufacturer would hesitate to build, these same machines have found a wide sale where the later types could not go. Mr. Lanz, in common with many other German manufacturers, recognized this principle of trade and achieved a notable success.

CANADIAN INDUSTRIAL DEVELOPMENT.

Consul-General Holloway, of Halifax, Nova Scotia, furnishes in the following communication interesting items showing the development of a number of industries in the Dominion:

The Fowlers Canadian Company, Hamilton, Ontario, a branch of the Swift Company, of Chicago, Ill., will enlarge its plant at a cost of about $70,000.

The Theo. Noel Company has been incorporated with a capital of $50,000 to manufacture proprietory medicines, etc. The provisional directors include T. Noel and J. R. Noel, of Chicago.

The Ajax Production Company, an American corporation, has been licensed to produce oil, petroleum, etc., in Ontario, with a capital of $40,000.

The Hope Lumber Company, an American corporation, has been licensed to manufacture lumber, shingles, etc., in Ontario, with a capital of $25,000.

The Point Abino Sand Company, an American corporation, has been licensed to manufacture stone, cement, foundry supplies, etc., in Ontario, with a capital of $20,000.

The American Radiator Company, an American corporation, has been licensed to manufacture radiators, heating apparatus, boilers, etc., in Ontario, with a capital of $50,000.

The Capewell Horse Nail Company, an American corporation, has been licensed to manufacture horseshoe nails, etc., in Ontario, with a capital of $400,000. C. H. Fleming, Toronto, is their attorney.

The ratepayers of Perth, Ontario, have voted favorably on a by-law granting $25,000 to H. H. Wampole & Co., of Philadelphia, Pa., for the erection of a factory for the manufacture of milk sugar, etc.

The Fairbanks-Morse Canadian Manufacturing Company Toronto, has been incorporated with a capital of $250,000, to manufacture tin, iron, steel, manganese, etc. G. W. Sparks, of Chicago, is among the directors.

The Banner Oil Company, Petrolia, Ontario, has been incorporated, with a capital of $100,000, to produce crude petroleum, natural gas, etc., and to manufacture well-drilling tools and machinery. The provisional directors include J. C. Winters, Mount Morris, N. Y., and C. H. Palmer, Rochester, N. Y.

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The contract for remodeling battery No. 9 of the Dominion Iron and Steel Company's coke ovens, and for building a new battery of 50 by-product ovens, has been secured by Messrs. Heyl & Patterson, Pittsburg, Pa., who built the washing plant. This addition to the ovens will increase the coke supply to the extent of about 250 tons per day.

The St. Lawrence is not to have the benefit of the submarine bell signals which were contracted for some months ago by the Dominion government. At a recent meeting of the Shipping Federation of Canada the matter was gone into and the decision was arrived at that the seagoing shipping of the St. Lawrence would not adopt them. It was contended by members of the Shipping Federation that while there was no question of the system being an aid to navigation in the St. Lawrence between Montreal and the sea, the expense incurred by steamboats, by the establishment of the system on board each vessel, was such that they could not afford to take it up. It appears the owners of the submarine signal company of Boston proposed to charge each steamship $500 for special equipment of the coast line down through the gulf.

CROP PROSPECTS IN WEST ONTARIO.

Consul Seyfert, Stratford, Ontario, states that from personal observation and reliable reports from every county in western Ontario, he is led to believe that the best prospect for crops of every kind, with the exception of fruit, is in sight. Some of the reports are given by the consul in the following letter:

From a personal observation and reports of reliable sources from every county in western Ontario I am led to report that the best prospects for crops of all kinds the farm produces, with the exception of fruit, are in sight.

One man from the county of Lambton reports that fall wheat is so good that it looks like 40 bushels to the acre. Oats and barley are fine, with excellent prospects for a heavy yield. Corn, roots, and potatoes are looking fine; grass, the best ever seen here.

Another reports from Middlesex County that fall wheat never looked better, and there will be an average crop of 40 bushels to the acre. "Barley and oats," he says, "will yield from 40 to 60 bushels to the acre." Another report from the same county says: "The wheat crop is first class and the grass the largest ever grown in this county."

From Bruce to Huron counties, in the extreme western part of the Province, reports are very favorable for the best crops ever harvested. One observer says: "Judging from present prospects in these counties there will be one of the largest harvests ever gathered. Fall wheat is simply magnificent and looks like 30 to 40 bushels per acre.

"The root-crop prospects never were better. Hay is an abundant crop, and pastures are simply magnificent on all lands. The prospects are fair for fruit generally, but not as great a yield as in some years."

From Grey County the report is about the same. From the counties of Perth, Oxford, and Waterloo, the garden of Ontario, all reports indicate the best crops harvested in thirty years.

The two difficulties which confront the farmers in harvesting these abundant crops are the scarcity of farm help and the extraordinary wet summer. In the early part of the season there was an abundance of rain, yet not too much for the growing crops, which largely accounts for the immense harvests. Now when most of the crops are maturing the lack of sunshine and heavy rains have become a serious question of how to save and house this the heaviest and best crop of the past thirty years.

EXPORTS TO THE NETHERLANDS.

The Austrian consul-general at Amsterdam, in a report to his Government, says Consul-General Guenther, of Frankfort, admonishes Austrian exporters to be very careful and exact in making out their invoices for goods shipped to the Netherlands, whose tariff laws fix ad valorem duties on most of the articles imported. He calls attention to the fact that the costs of transportation to the Dutch border must be added to the value of the goods, and that the slightest undervaluation meets with severe fines at the hands of the Dutch.

WHEAT CROP OF INDIA.

LARGEST ACREAGE FOR A DECADE.

Consul William T. Fee, of Bombay, sends the following interesting statistics concerning the wheat crop of India for 1904–5, with comparisons for the five preceding years. The statistics are based on data furnished by the statistical department of the Indian government. The consul gives the production by provinces in tons of 2,240 pounds, to which a column is added by the Bureau of Manufactures converting the tons into bushels. The report follows:

The area of this year's crop is estimated at 28,232,000 acres, which shows a decrease over last year of less than 1 per cent. The yield is given at 7,519,575 tons (280,730,800 bushels), or nearly 22 per cent less than the yield of the previous year.

The area under wheat in 1904 was the highest of the decade, being some 5,000,000 acres greater than the previous year.

The United Provinces, where the effects of frost and rust were most disastrous, account for 1,334,000 tons (49,802,667 bushels) of the deficiency.

Little injury has occurred in the Punjab and the northwest frontier province, where the yield is considerably above the normal, though harvesting has been retarded by some weeks.

In making comparisons with 1904 it must be remembered that the yield of that year was abnormally prolific, exceeding any previous record by 1,600,000 tons (59,733,333 bushels). The outturn of 1905 is, therefore, well above the average. The annexed table shows the

estimated yield by provinces for the current year and averages for the five years preceding:

	Current year.		Average preceding five years.	
	Tons.	*Bushels.*	*Tons*	*Bushels.*
Punjab	2,855,353	106,599,845	2,077,732	77,568,661
Northwest frontier	267,637	9,991,798	207,300	7,739,200
United provinces	1,897,017	70,821,960	2,489,302	92,821,906
Bengal	444,100	16,579,734	515,800	19,368,538
Central provinces	760,647	28,397,480	467,302	17,445,941
Berar	88,205	3,292,967	10,788	402,752
Bombay	345,404	12,895,083	365,380	13,640,853
Sind	123,730	4,619,253	91,528	3,417,045
Hyderabad	89,662	3,347,380	41,885	1,563,707
Rajputana	198,523	7,411,525	164,215	6,130,693
Central India	448,850	16,757,067	254,400	9,497,600
Mysore	447	16,688	346	12,917
Total	7,519,575	280,730,800	6,685,977	249,609,808

EXPORTS FOR FIVE YEARS.

The following table shows the exports of wheat from India during each of the last five years. The year 1900–1901 having been the last year of the great famine, accounts for its light exports.

	Tons.	Bushels.
1900–1901	2,501	93,537
1901–2	366,091	13,667,397
1902–3	514,607	19,211,995
1903–4	1,295,566	48,367,797
1904–5	2,150,025	80,267,600

MEAT IN GERMANY.

Consul Guenther, of Frankfort, Germany, under date of July 6, forwards the action of the board of managers of the Association of Butchers of Berlin in the form of the following declaration:

In order to supply the population sufficiently with meat Germany requires animals for slaughtering purposes from abroad.

German agriculture has repeatedly demonstrated that, in spite of contrary assertions, it is not capable to provide Germany sufficiently with animals to be butchered.

The rules and regulations now existing with reference to the importation of such animals, through quarantine measures, have such a paralyzing effect that these rules and regulations are almost equivalent to a prohibition of imports.

Whoever views existing conditions with regard to the nutrition of the population of Germany with meat, with an open and unprejudiced eye, must arrive at the conclusion that the prices of meat must still advance, provided the frontiers are not opened for the importation of animals to be butchered, to all slaughtering establishments with direct railroad communication. If this is not done then the butcher trade will not only be damaged in its innermost foundation, in its existence, and tax-paying ability, but it must also refuse every responsibility for the present high, and in the future still higher prices for meats.

The representatives of the butchers' association state that if the legislative body does not intervene, and the provisions of the new customs tariffs will yet later on exert their influence, meat will cease altogether to be food, but will be only a luxury.

BOUNTY ON LEAD.

Consul Smith, of Victoria, British Columbia, writes that the bounty placed on lead in that country has given the industry great impetus. The consul says:

The total production of lead in British Columbia for the fiscal year ending June 30, 1905, is officially stated to be 55,752,019 pounds, or a little over 27,871 tons. For the year 1904 the total production was 18,323 tons; 1903, 9,044; 1902, 11,268; 1901, 25,791; 1900, 31,674. The figures tell of an industry which had dwindled to less than one-third of its top production in three years and which in two years more, through the bounty, has almost regained its old position. The product of the year is the best but one in any twelve months in the history of the Province.

Of the 27,871 tons produced this year, 11,000 tons have been exported, while the remainder, nearly 17,000 tons, has been smelted in British Columbia. The rate of bounty paid varies with the London price, and is less for exported lead than for that treated locally, viz, $10 a ton in the first case, $15 in the second. It is roughly figured that the total amount of bounty paid will be about $340,000 out of the $500,000 set aside by the government for that purpose. The value of the total production of lead in British Columbia in 1904 is officially reported as amounting to $1,421,374, while the combined product of lead in all the other Provinces of Canada is given as $215,546.

POINTS FOR MANUFACTURERS.

Consul-General William F. Wright, of Munich, furnishes a number of items that will interest manufacturers of electrical appliances and various kinds of machinery in the following communication:

Electrical appliances.—The increasing number of tourists who visit southern Bavaria, the Tyrol, and Switzerland has made it necessary to have more improved appliances for modern comfort. Among the appliances which interest American manufacturers may be mentioned electrical ventilating fans, washing and ironing machines, refrigerators, carpet cleaners, etc. So many large hotels are refitted and built every year that American manufacturers should find this a profitable district for such appliances.

Rolling stock.—The Rhätische Bahn, a narrow-gauge railway in the Engadine, Switzerland, has decided to purchase 10 new locomotives for the line, for which a sum of 780,000 francs ($150,000) has been set aside. The purchase of three further locomotives for the projected line from Davos to Filisur is also contemplated. The sum of 404,000 francs ($78,000) has also been set aside for the purchase of 62 cars of different sorts. The gauge of the railway is 1 meter.

Water power in Spain.—The Sociedad Electroquimica de Flix (Tarragona Province) has received the concession to take power from the river Ebro at the rate of 80 cubic meters of water per second. The installation must be commenced within five months.

Iron bridge.—Tenders are invited by la Repartição de Direcção Geral de Obras Publicas, Lisbon, for an iron bridge over the Rio Tigo. A deposit of 5,000 milreis is required, and tenders must reach Lisbon by August 19, 1905.

CANADA'S FISCAL AND COMMERCIAL AFFAIRS.

TARIFF COMMISSION TO BE APPOINTED.

Consul-General John G. Foster, of Ottawa, Canada, transmits an interesting report relative to the revenues and expenditures of the Dominion, the withdrawal of American silver coins from circulation, and proposed tariff changes. Mr. Foster writes:

The revenue of the Dominion of Canada for the fiscal year 1904–5, so far as reported at the different departments, was as follows: From customs $40,955, from excise $12,461,113, from other sources $16,058,772. The minister estimates an additional sum of $1,775,242 in the final adjustment of the accounts, making the total revenue for the year, as estimated, $71,250,000. The expenditure chargeable to consolidated fund he estimates at $62,250,000. The estimated expenditure during the same year on capital account is $12,500,000, making the total estimated expenditure $74,750,000. Deducting the sinking fund provision, the minister considers that the year's operations will show an increase of $1,250,000 to the net debt of Canada. The estimate of income for the year 1905–6 is $71,899,898.30.

PROPOSED TARIFF CHANGES.

The minister reiterated his statement of a year ago that it is the purpose of the government to appoint a commission to investigate the tariff before making extensive changes, but increasingly protective tendencies are indicated by the speech. While the personnel of the commission is not stated, it is to be made up of ministers connected with the revenue side of the house. In 1897 a similar commission, consisting of the minister of trade and commerce, the minister of customs, and the minister of finance, was appointed. It is expected that the commission will be designated at an early date, and that it will hold meetings in every principal city of the Dominion, probably completing its investigations in time to enable the government to bring in a general revision of the tariff at the next session of Parliament. The general tariff plan will be, as outlined last year, viz, to bring in a maximum general tariff which would apply to countries pursuing a hostile tariff policy, a minimum general tariff to apply to countries which do not legislate in a manner regarded as commercially hostile. Below the general minimum tariff there would be retained the British preference.

AMERICAN SILVER TO BE WITHDRAWN.

In order to secure the withdrawal of American silver from currency use in Canada, the finance minister proposes, during the current year,

to pay the banks for transportation expenses, and also a commission of three-eighths of 1 per cent on all such silver exported, Canadian silver to be taken by the banks to replace the shipment abroad. It is estimated that the amount of American silver in circulation in Canada is between $500,000 and $900,000.

RECENT CUSTOMS TARIFF CHANGES.

Recent changes in customs rates are reported as follows:

Rolled oats are made dutiable at 60 cents per 100 pounds; dry white lead is made dutiable at 30 per cent (formerly 5 per cent); white lead ground in oil is made dutiable at 35 per cent (formerly 25 per cent).

The duty on cement has previously been levied at 12½ cents per 100 pounds, the weight of the bag, barrel, or cask to be included in the weight for duty. As the weight of bags is only trifling, a duty of 25 per cent ad valorem is now placed upon the bags which contain the cement.

The light wines of the South African colonies are to be admitted into Canada at the rate of 25 cents per gallon, the same as the light wines of France.

The exemption relating to settlers' effects is amended so as to exclude contractors' outfits.

The free admission of certain machinery for the manufacture of sugar from beet roots and also for alluvial gold mining is extended to June 30, 1906.

British West India molasses imported in the original packages through Newfoundland or any other British country is to be admitted free of duty, the same as if imported directly.

GERMAN LABOR MARKET.

Improvement in the labor market of Germany is reported by Consul Muench in the following:

A continued improvement in the labor conditions of Germany may be noted, though there has been no perceptible diminution in the number of applicants for employment. During the month of May the proportion of applicants, male and female, as against vacancies was 119.7 to 100, while during the corresponding month of 1904 it was 120.9 to 100. The number of female applicants alone shows a decided increase, though still largely below the vacancies in number. In May, 1905, it reached 81.4 applications for each 100 positions, as against 77.6 to 100 in May, 1904. Separately stated, the male applicants numbered 138.2 for each 100 positions, as against 142.7 during May, 1904. This improvement is the more notable because this was the month during which the close of the scholastic year throws more applicants upon the labor market than is the case in any other month.

In cereain lines, such as the building trades, cement factories, brick works and lime kilns, the employment was constant. The iron trade, with its allied industries, machine shops, and electrical works, showed steady improvement, while the textile branches, which were depressed

in April, were able to resume their normal activity during May, and even exceeded the number of operatives ordinarily employed, in certain districts.

The revival of industrial activity also had a reflex influence upon coal production, which perceptibly gained. Iron ore is in such keen demand that some districts hold advance contracts for the entire output up to October 1, 1905, besides disposing of all past accumulations.

DAIRYING IN AUSTRALASIA.

GOVERNMENTAL SUPERVISION OF PRODUCTS.

Consul F. W. Goding, of Newcastle, New South Wales, contributes the following instructive letter on the dairy industry in Australasia:

Dairying has been carried on in Australia from a very early period in the settlement of the continent, but its mercantile history started with the manufacture of butter by machinery in a factory. The creamery and factory system put dairying upon a scientific and profitable basis. In 1881 a creamery was erected at Mittagong for the separation of milk, and in July, 1883, practically side by side with this was the erection of a cooperative butter factory at Kiama, the small beginning from which the present large and ever-growing system has been built. Rather less than a decade ago a considerable impetus was given to the industry by the establishment of creameries as contributing stations; in some cases milk was conveyed to the factories and separated there, but generally the cream was received from the creameries and butter manufactured at the factories. This creamery or separating system, however, was speedily superseded by the private separator.

Side by side with this transformation was the change from the proprietary to the cooperative ownership of butter factories. Although cooperative dairy companies were in vogue for more than a decade ago, the proprietary concerns were more strongly in evidence. About this time the New South Wales government engaged the services of a dairy expert, a gentleman well versed in the science of butter making as opposed to the old methods that took no cognizance of the part that bacteria play in butter making. This appointment was followed by the importation of several head of cattle from England of representative dairy breeds. Farmers were given to understand that they would be paid not for the quantity of milk supplied to the creamery or the factory but for the fat percentage of the milk delivered. Now many of them test each cow and cull out the low-grade animals. Separating the milk on the farm and not at the obsolete creameries tends to facilitate this improvement in the herds. New Zealand has a dairy commissioner and instructors and graders.

The Australian export of butter in 1894 amounted to 4,590,606 pounds, valued at $731,255, but in 1904 it had risen to 21,399,000 pounds, valued at $3,950,722. The total exports of butter to Great Britain from July 1, 1904, to April 20, 1905, was as follows, in tons: Sydney, 7,744; Melbourne, 11,967; Brisbane, 2,145; Adelaide, 348; total, 22,204 tons, as against 18,563 tons in 1903.

ENCOURAGING PROSPECTS.

As to the prospects of dairying in Australia, they were never brighter, especially in New South Wales and Queensland, where the industry is rapidly expanding. New land is being taken up for dairying, not only on the coast, which is the ideal dairying country, because of the frequent rains, but also on the table-lands and slopes. Dairy farmers by grading up their stock are putting greater value into the business, and the most approved methods of handling milk and cream are being pursued by a larger number of dairy farmers.

There is a system of government grading and branding of dairy products in New Zealand and Victoria, and an inspection of butter factories and dairies in consequence. Last month the grading provisions of the Queensland dairy produce act came into force. In New South Wales there is no grading, but the dairy expert or his assistants give advice to dairy farmers and butter makers. Youths are trained at the colleges in dairying, and as they go forth equipped with knowledge, they in their turn impart information that leads to better results than those previously obtained. These factors will tell when adverse seasons prevail, for the modern well-educated agriculturist is taught to conserve fodder, to shelter stock, as well as to grade up and handle products skillfully. There are about 425,000 head of dairy cattle in the State, and about 30,000 persons employed in the industry, working machinery to the value of $2,500,000.

In New Zealand there are about 469,000 head of dairy cattle, not including 47,000 heifers over 2 years old, intended for dairying; each produces annually 200 pounds of butter or 500 pounds of cheese. The number of milch cows in South Australia is about 84,000 head, which is a marked increase. There are 47 butter and cheese factories in that State, of which 27 make butter, 13 cheese and butter, and 7 cheese only. The export of South Australian butter during the last ten years amounted to 9,204,204 pounds, valued at $1,881,569.

Taking all the factors into consideration the outlook for dairying is very promising in all the States, except, perhaps, West Australia, where the industry has not yet been put upon a very broad footing. There is land suitable there in plenty, and the time will doubtless come when West Australia will not need to import dairy products but will have the industry on an export basis.

CARBONATING PLANT IN PANAMA.

Consul-General Lee, of Panama, writes:

A carbonating plant has been established at the Paraiso Springs, in the Canal Zone, 8 miles from Panama. The water at this place is particularly pure, and pronounced by Ernst J. Lederle, Ph. D. (formerly head of the New York City board of health), "uncontaminated and suitable for all domestic purposes."

Covered concrete basins, 5 feet wide and 9 feet long, are built about these springs, which are located on the hillside 20 feet above the carbonating plant. The springs are never dry. A 1-inch pipe leads the water to the factory. Water, free to all comers, flows continually

from the overflow pipes and is carried in vessels as far as Panama and Colon. The present capacity of the plant is 100,000 pint bottles per annum. The plant is equipped with American machinery. The brands of liquids sold are Paraiso sparkling water, lemon soda, sarsaparilla, ginger ale, and colo champaigne. In a country like this, where expensive imported bottled waters are used to a great extent by the foreign residents, the establishment of the above carbonating plant at a pure-water source is of great value. Sparkling charged Paraiso water sells for 8 cents per pint, and is extensively used. Imported White Rock and Apollinaris water sell at 25 cents a pint.

The business was started in February last and is carried on by Mr. W. N. Seitz, an American citizen.

GEORGIAN BAY SHIP CANAL.

JAMES J. HILL'S OPINION ON THE SCHEME.

United States Consul Harry P. Dill, Port Hope, Ontario, in transmitting the following interview with Mr. J. J. Hill, says that the question of building the Georgian Bay Canal, by which ships may proceed from Georgian Bay through to Ottawa, and thence to Montreal, has again come prominently before the public. Mr. Hill said:

Take the grain business going to the seaboard from north of St. Louis and as far west as grain grows in the Platte Valley, and it would not be difficult to see it leave and seek the sea by way of the St. Lawrence.

If the Georgian Bay Canal is built—as I believe it will be—from Georgian Bay to the eastern portion of Lake Huron, up French River, up the divide to the Ottawa system of lakes, it would involve the construction of 32 miles of canal, with a depth of 20 feet of water on the sill and 22 feet in the reaches. Only 32 miles of actual canal have to be built, and for the remainder of the distance existing water could be used, with some dredging in the Ottawa River. The distance from Chicago or Duluth to Montreal is, I think, 15 miles shorter than it is to Buffalo, going around the State of Michigan.

If they build that canal grain could go from Chicago or from Duluth to deep water at Montreal for 2½ cents a bushel. Refrigerator ships could load direct from the packing houses in Chicago and sail from there, drawing 19 or 20 feet of water, to any port in the world during the season of open water. The St. Lawrence is open when the Lakes are open.

The present Canadian government has just been returned and I think the canal is probably the most popular thing they will ever have to do. For that reason I think there is no doubt of its being built. I know that the people up there are very much taken up with the possibilities. They think it is of vastly more importance than some other things they have in hand, although they are spending from $80,000,000 to $85,000,000 for building a railroad from Moncton, New Brunswick, to Manitoba.

The paper from which Consul Dill extracted the foregoing interview (the consul omitted its name), has the following to say on what the Georgian Canal means:

The project of constructing the Georgian Bay Canal, as the scheme has been named, has been described time and again in the public prints and has taken up considerable attention among the Canadian public men.

The project is for a connecting link between Georgian Bay, which is a deep indentation in the northern shore of Lake Huron, and the waters of the Ottawa and St. Lawrence rivers, flowing northeast into the Atlantic.

The importance of the project may be realized when it is stated that such a waterway, if built, would almost immediately take from the railways of the United States, the Americans claim, the bulk of the vast export trade in grain and meats, the former aggregating over 2,223,000,000 bushels a year, and the latter 1,000,000,000 pounds. Three-quarters of this traffic moves by rail to New York and less than a quarter of the grain from Chicago moves by boat.

The cities of New York and Buffalo have most to lose by the construction of the proposed Georgian Bay Ship Canal. Buffalo handles 148,000,000 bushels of grain annually, most of it bound for foreign ports, and it is to eliminate the heavy terminal and elevator charges and the cost of breaking cargo that this new water route is chiefly desired. The cost of carrying from Buffalo to New York is greater than the freight from New York to Liverpool.

It is impossible to say just how much export traffic New York City has at stake, but it is known that the region tributary to the Great Lakes develops 40,000,000 tons of freight a year, a large portion of which is destined for export, and ultimately finds its way out through the harbor of New York.

PUBLIC OWNERSHIP IN MANCHESTER.

INTERESTING STREET RAILWAY FIGURES.

The results of municipal ownership of street cars in Manchester, England, for the year ending March 31, 1905, were made known at a recent meeting of the tramway committee of the corporation and are made the subject of a report by Consul Walter C. Hamm, of Hull.

The report states that in 1904 the routes open for traffic aggregated 137 miles of single track. During the year just ended extensions have been made and opened for traffic, so that the average length of single track open for traffic on March 31, 1905, was 146 miles. The revenue account shows that the total income for the year was $3,159,778 and that the charges were $506,388, leaving a net profit for the year of $604,750, against $608,527 for the preceding year.

During the year the number of passengers carried was 126,900,875, an increase of over 6,000,000 on the previous year. The car mileage shows an increase of considerably over half a million miles, the figures being 14,123,124 last year, against 13,617,448 in 1903–4.

The percentage of passengers' fares shows that 71.94 per cent paid

2 cents for the journey, 11.01 per cent 3 cents, 7.10 per cent 4 cents, and 5.40 per cent 1 cent. Of the total number of passengers carried, 91,281,804 paid 2-cent fares.

The electrical energy used during the year amounted to 18,854,240 units, against 16,815,764 in the previous year. The average traffic revenue per car mile was 21.36 cents, against 21.04 cents, and the average traffic revenue per mile of single track $21,495, against $22,340 in 1903–4. The average working expenses per car mile, including power cost, were 13.98 cents, against 13.56 cents.

There has been a reduction in working hours from seventy to fifty-four hours per week. The maximum wages paid motormen is 14 cents per hour and conductors 13.50 cents per hour. A grant of one week's holiday per year with pay is given. Uniform clothing is supplied and free riding on the cars to and from duty. In Hull, which is the only instance in England of motormen receiving more than 14 cents, the pay is 15.4 cents, but there is no holiday allowance.

GOVERNMENT OF PORT ARTHUR.

MILITARY REGULATIONS REGARDING FOREIGNERS.

Mr. Lloyd Griscom, United States minister to Japan, has furnished the State Department with a translation of the regulations established by the Japanese foreign office regarding the movements of foreigners in Port Arthur and the removal of property from the area covered by the war zone. The military authorities of Japan consider that existing conditions at Port Arthur do not permit foreigners who left before the siege to return and look after their property. The regulations follow:

ARTICLE 1. A foreigner who is leaving or about to leave Port Arthur may carry away his private property from Port Arthur Harbor by ship within forty-five days after the date of the promulgation of these regulations.

ART. 2. Ships to carry out the private property, according to the provision of the preceding article, shall be Japanese vessels and their officers and crews must be entirely subjects of the Japanese Empire. (The ships mentioned above must not exceed 15 feet draft. When a change is necessary in this respect due notice will be given accordingly.)

ART. 3. One who desires to carry out his private property according to article 1 shall make an application to and receive permission of the minister of navy or the commander in chief of the naval station of Port Arthur according to the form attached.

ART. 4. Ships that have received permission to go in and out of the harbor, in accordance with the preceding article, shall so notify the harbor master's office and the military administration office within twenty-four hours.

ART. 5. Ships which go in and out the harbor with permission from the minister of navy or the commander in chief of the naval station must observe the harbor regulations of the port.

ART. 6. No one is permitted to land except those who have landing permits from the naval station of Port Arthur.

The permits here mentioned must state that the bearer is a member of the ship's crew or a passenger and the time of the ship's arrival and departure, and he must show it to any gendarme or sentinel on demand. Such permit is good only during the period of anchorage.

ART. 7. One who intends to leave harbor on board a ship which has a license in accordance with article 3, shall obtain the permission from the military administration office, and the latter when necessary may order the one who chartered the vessel to take on board persons that are leaving the harbor, or those that have violated the provisions of the preceding article (without charge if the persons in question are unable to pay).

ART. 8. Nothing may be taken on board, except what is permitted by the military administration office.

ART. 9. Those who wish to avail themselves of the privilege of using the telegraph between foreigners in Port Arthur and consuls, companies, or individuals, outside the war zone, in order to communicate in regard to the matters connected with the disposal of property, the hiring of ships, or arrangements with regard to the going in and out the harbor, shall conform to the following rules:

(*a*) Telegrams must be written in either Japanese or English. No limit shall be imposed as to the number of words.

(*b*) Telegrams from foreigners in Port Arthur shall be dispatched from the Japanese post-office at Yingkow after inspection at the commander's office at Port Arthur garrison. Telegraph fees must be paid by the sender.

(*c*) Telegrams coming from the outside of the war zone to foreigners in Port Arthur are to be received at the Japanese post-office at Yingkow and will be delivered after inspection at the commander's office of Port Arthur garrison.

(*d*) Telegrams will be carried between Yingkow and Port Arthur by railway post.

PROVISIONS FOR SHIPWRECKED CREWS.

On February 5 last the French bark *Anjou* was wrecked on Cape Briscoe, Auckland Islands. But for the benevolent provision of the New Zealand government the castaway crew would have been in very sore straits. The government has established depots for food, clothing, etc., on various islands off the coast of New Zealand, but as it does not seem to be generally known this ship's company only found them after having been on the island for some time. Depots for shipwrecked mariners are maintained by the New Zealand government on the Auckland, Campbell, Antipodes, Bounty, Kermadec, and Snares islands. The following locations of the several depots are furnished by Vice-Consul-General Bachelder, of Auckland:

Auckland Islands.—A depot is placed on the south side of Erebus Cove, Port Ross, and another in Camp Cove, Carnley Harbor, and a third at the head of Norman Inlet. One boat is placed on the northwest end of Adams Island, another on Enderby Island, and another on Rose Island.

Campbell Island.—A depot is erected in Tucker Cove, Perseverance Harbor, and a boat has been placed at the head of that harbor.

Antipodes Islands.—A depot is placed abreast the anchorage on the northeast side of the principal island.

Bounty Islands.—There is a depot on the principal island.

Snares Island.—A depot has been established on this island in Boat Harbor.

Kermadec Islands.—A depot is established on Macaulay Island, near Lava Cascade, on the northeast end of the island, and another on Curtis Island, at the head of Macdonald Cove, on the northwestern end of the island.

Finger posts to indicate the direction of the depots have also been put up.

The government steamer visits the Auckland, Campbell, Antipodes, Bounty, and Snares islands twice a year and the Kermadec Islands once a year, and one of His Majesty's ships calls at the Auckland, Campbell, Antipodes, and Bounty islands twice a year, the visits being made about midway between the trips of the government steamer.

I would suggest that as much publicity as possible be given to this information.

SECURING CONTRACTS IN BELGIUM.

LIBERALITY TOWARD FOREIGN COMPETITORS.

Consul-General Church Howe, of Antwerp, Belgium, in the annexed letter, furnishes information which will be of service to Americans who may desire to extend existing, or establish, trade with Belgium:

It may justly be said that few European countries present less obstacles to the foreigner in competing successfully in the industrial and commercial market than Belgium. No prejudice whatever exists with regard to the nationality of competitors, and although there is the necessary amount of patriotism and national pride for the stimulating of home enterprise, this in no way closes the eyes of the Government or of individuals to the principles of economy. Quality of material, excellence of workmanship, the experience and reputation of bidders, are all weighed in the balance, together with the price, regardless of nationality. Unfortunately, Belgium has no trade journals, and this fact somewhat hinders the prompt response to calls from abroad that would result were they reported as widely as is the case where such journals abound.

Experience in Belgium shows that no prejudice exists against foreigners. For example, railroad material is contracted for in Germany and France and coal in England. Of late years American locomotives have been in the greatest favor with the Belgian State Railway. The Antwerp gas and water works are both in the hands of English companies, and the railroad from Antwerp to Ghent, via St. Nicholas, now owned by the State, was constructed and run for many years by exclusively English capital.

CONDITIONS IN SECURING CONTRACTS.

The principal condition in securing contracts for the Belgian Government is the furnishing of guaranties for their fulfillment. Bids

are often accepted at higher figures when the guaranty offered appears more satisfactory than that accompanying the lowest bid. Absolute guaranty for the execution of the contract, payments of penalties in case of nonfulfillment, etc., must be furnished, and the value of the guaranty is estimated by the reputation of the firm, its experience, extent of capital, etc. A young house might offer the lowest price and give cash deposit for guaranty, yet if its experience were not considered sufficient the bid might be refused. From the foregoing it follows that the presence of an agent in the country, familiar with its commercial and industrial conditions, is essential. Business is transacted upon the various exchanges of which the public hears little, for on the Belgian exchanges every conceivable line of trade is dealt with, from the scraping of a ship's hull to the building of a railroad or a seaport. Personal contact, therefore, would seem to be the only sure method of competing successfully, and this is felt so keenly that every year foreign houses are opening offices in Belgium or sending their agents on to the field of action.

FAVORED BY CHEAP LABOR.

A great point in favor of foreign competition on the Belgian market is the absence of high protection, and in certain cases exemption from duty is granted—for instance, for material required for naval construction—and in this alone will be seen the favor which foreign competitors enjoy. The American contractor, however, must not lose sight of the fact that he must contend with the low wages prevalent in Belgium. It is this cheapness of labor that enables this country to produce the best manufactured articles at prices which defy the keenest foreign competition, and for this reason several American houses have established themselves on Belgian soil, the better to compete with other American manufacturers.

Nothing stands in the way of the American house desirous of securing Belgian contracts. The principal element is promptness in acquiring information, and constant touch with the Government and individuals, a knowledge of what transpires on the various commercial and industrial exchanges, and an intimate acquaintance with the general requirements of the country at large. These conditions can, of course, only be filled by someone on the spot familiar with the language of the people.

BRITISH MANUFACTURERS' ASSOCIATION.

The following announcement of the formation of a manufacturers' association in Great Britain is circulating in the English newspapers is furnished by Consul Hamm, of Hull, England:

An association representative of British manufacturers and traders interested in export business is now being formed under the name of the Manufacturers' Association of Great Britain. Its objects will be similar to those of the Canadian Manufacturers' Association, many of whose members are now visiting this country, and the National Association of Manufacturers of the United States, namely, by coordination of the industrial forces and cooperation among the leading manufacturers and merchants, chambers of commerce and shipping, and similar bodies to promote and expand trade (in this case British trade)

in foreign and colonial markets. The means by which these objects will be obtained include the appointment of correspondents in all parts of the world to report on openings for trade and local changes and conditions within their respective spheres, and the distribution of such information among firms whom it will most benefit. A trade index to British manufacturers is to be compiled in the chief commercial languages of the world and distributed free to chambers of commerce, leading merchants, and others in the colonies and foreign markets. Information regarding the commercial standing of any firm of merchants and respecting railway rates and shipping rates and shipping freights all over the world will be collected and supplied, and a staff organized capable of corresponding on technical and commercial subjects in any language, and also of translating into and from English commercial catalogues and similar documents. One of the main objects of the association will be the systematic dissemination of knowledge of British goods in all possible over-sea markets. Temporary accommodation for the association, which will not be a trading body, has been secured at Orchard House, Westminster.

It will interest American manufacturers to know that their methods for expanding the export trade are to be adopted by their English rivals.

CUBA'S ENTERPRISE AND PROGRESS.

Frank G. Carpenter writes from Cuba describing the progress that has been made in the development of the island. In order to work the soil with the best possible results, many samples have been sent to the United States Agricultural Department for analysis, and a variety of experiments are being made in fertilizers and new branches of farming. This applies to sugar and tobacco as well as to fruits and vegetables. The experiments are under the direction, for the most part, of Americans who have been employed at the Agricultural Department in Washington. An experimental farm has been established 15 miles from Habana, which is under the direction of Prof. F. S. Earle, for many years connected with the Agricultural Department at Washington. Mr. Carpenter, who has traveled in almost every country in the world, and investigated conditions and peoples, declares that Cuba has more good soil than is found in the Valley of the Nile, and promises to be the great winter fruit and vegetable garden of the United States. Although mountainous in places, the soil is good to the tops of the hills, and Mr. Carpenter declares that every bit of it can be farmed. He says that "Cuba lies in Uncle Sam's front yard, with a short waterway to his kitchen door."

At the close of the war only 3 per cent of Cuba's area was under cultivation. This has been considerably extended, but still there is not more than one-sixth of the island used for farming purposes.

Mr. Carpenter says that a score of varieties of bananas have been introduced from Porto Rico. Twenty varieties of peaches and fifteen of Japanese persimmons have been planted in the experimental farm. Figs from California, Japanese walnuts, and all sorts of grapes that grow well in the southern section of the United States have also been introduced. Of citrus fruits and pineapples Mr. Carpenter says:

"Among the most important experiments are those with citrus fruits.

All the best-known limes, lemons, and pomelos are being planted or budded. More than forty different varieties of oranges have been planted for comparison and study, and also a large number of pineapples of different kinds. The pineapple industry is rapidly increasing, and the department is making great efforts to get the best varieties. The exports of pines last year were in the neighborhood of three-fourths of a million dollars, and 99 per cent of these went to the United States."

IMPORTS AND EXPORTS OF PARAGUAY.

In transmitting the following table showing the imports and exports of Paraguay in the month of January, Vice-Consul De Korab, of Asuncion, says that the data, supplied by the Asuncion custom-house, give a fair idea as to the place the United States occupies in the commercial relations of Paraguay, and may serve as a valuable pointer to American exporters.

Imports for January.

Articles.	England.	Germany.	Italy.	France.	United States.	Argentina.	Spain.	Belgium.
	Dollars.	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Lambs	8	151	.....	.....	108	33	.....	.....
Earthenware	661	495	.....	.....	.....	.....	.....	.....
Porcelain, etc	.....	.....	67	112	.....	.....	6	23
Skins and hides	.....	112	.....	1,065	.....	968	.....	.....
Saddlery	438	17	400	.....	.....	20	.....	.....
Shoes	.....	4	.....	193	22	2	.....	23
Jewelry	.....	21	.....	3	478	.....	.....	.....
Musical instruments	48	23	.....	.....	.....	.....	.....	.....
Arms	5,201	1,591	.....	.....	2,889	.....	.....	1,218
Furniture	.....	1,260	.....	.....	200	184	.....	.....
Books	536	.....	.....	.....	.....	.....	.....	.....
Stationery, etc	.....	1,299	232	1,490	.....	1,016	.....	.....
Perfumery	497	447	138	497	.....	.....	.....	.....
Haberdashery	11,964	1,075	1,178	1,471	224	.....	298	146
Eatables	853	5,946	3,518	1,996	1,176	13,563	1,948	157
Drinks	410	1,578	9,210	2,199	.....	90	6,473	.....
Hardware	35,789	5,495	.....	2,131	12,794	593	.....	3,319
Textile fabrics	38,332	15,377	6,040	6,080	884	406	9	1,834
Hats	2,005	392	1,352	2,807	.....	.....	7	286
Modiste articles	658	510	948	908	.....	70	125	57
Drugs	2,926	3,942	151	1,628	1,131	427	.....	450
Machines and other articles	29,308	7,132	1,052	52	1,220	562	8	.....
Total[a]	129,634	46,667	24,286	22,632	21,126	18,034	8,874	7,513

[a] The imports from all other countries than those given were valued at $2,840, making the total imports into Paraguay in the month $280,496.

Exports for January.

Articles.	Uruguay.	Argentina.	Bolivia.	Brazil.	Europe.
	Dollars.	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Forest products	.....	30,490	.....	.....	.....
Stock-raising products	192,728	172	.....	.....	73,338
Extractive industries	1,165	42,615	.....	.....	3,417
Agricultural products	2,311	2,504	83	.....	7,482
Sundries	157	123	411	220	195
Total	196,361	75,904	494	220	84,432

LABOR IN GERMAN LEAD WORKS.

Consul-General Guenther writes from Frankfort, Germany:

The official paper of the German Empire, the Reichsanzeiger, has just published an order of the Federal Council (Bundesrat) relating to lead smelters and lead color works. This order treats in general of the condition of the places where workmen are employed and contains rules and regulations as to the works where lead colors are manufactured, the distillation plants for zinc, the wash rooms, etc., and the supervision of the hygienic conditions.

The employment of females and youthful laborers in the dust chambers and dust canals and in the transportation of the dust is prohibited; and such persons are not permitted to enter the premises mentioned. The workmen employed at the smelting stacks, with the exception of those on the terraces whence the stacks are fed, are restricted to eight hours work per day. The same rule applies to the laborers employed in the interior of cold stacks and the cleaning of dust chambers and dust canals containing wet dust. Laborers engaged in cleaning dust chambers and dust canals containing dry dust are not permitted to work longer than four hours per day in the interior of such chambers and canals, and not more than eight hours per day in all.

According to present arrangements these rules go into effect on January 1, 1906, unless the public interest will be better subserved by waiting. In that case the Federal Council may extend the time to January 1, 1913, and may also modify these rules.

EXTENSION OF COTTON GROWTH.

BRITISH METHODS IN SOUTH AFRICA.

Commenting on the article which appeared in the Daily Consular and Trade Reports under the caption "British Cotton Manufacturers' Alarm," Mr. G. Wilfred Pearce, editor of Commerce and Finance, published at Newark, N. J., writes the Bureau of Manufactures regarding the efforts being made by the British Cotton-Growers' Association to promote the growth of cotton in British Africa and other colonies of the United Kingdom:

The British Nigeria Company is using labor that is slave in all but name. The British Cotton Growing Association has the sole right to cultivate cotton in any part of the 400,000 square miles over which the British Nigeria Company is overlord. The population of that area is about 25,000,000. On the cotton plantations operated near Lagos the cost of labor for sixteen hours per day and seven days in the week is reckoned by the factors at 12 cents, reckoned in United States money. This includes rations, clothing, medicine, quarters, and superintendence.

For a long time past Sir Alfred L. Jones, chairman of the British Cotton Growers' Association, has been shipping from Lagos to this country large quantities of dressed leather, every process in the trade of which, from the herding of the cattle to the tanning and dressing

and baling, is done by men and women who are veritable slaves, as appears from the Cardinal Lavergie Antislavery Society's reports issued from Lake Chad Station, West Africa. These slave-made leathers are as well finished as the best made in this country. Some examples thereof were recently exhibited at the Public Library in this city, and were rated as A No. 1 by famous tanners and dressers of this vicinity, who are the largest tanners in the world. So you see that it is not only in cotton but in leather and other articles that the British Cotton Growers' Association shareholders are hurting American commerce.

Sir Alfred recently told King Edward that within five years the cotton produced in west Africa will be ample for the requirements of Great Britain. American cotton fabrics, spirits, and other kinds of goods are shut out from the territory of the British Nigeria Chartered Company. Our New England cotton mills used to have some trade there, but are now shut out, as British free trade, so called, does not apply to any territory committed to the custody of a chartered company.

STEEL RAIL INDUSTRY.

GREAT BRITAIN, GERMANY, AND THE UNITED STATES COMPETITORS.

In transmitting the following abstract of two articles which recently appeared in the Deutsche Bergwerks-Zeitung, giving the history of the steel rail industry of the United States, Consul H. W. Harris, of Mannheim, Germany, says that the view taken by the journal just named of the outlook of the American rail industry may be accepted as that which prevails among well-informed Germans:

The vast concentration in the manufacture of American steel rails has rendered the United States able to enter into the sharpest competition with England and Germany in the export of rails. Prior to 1890 the export of rails from the United States never amounted to more than 8,000 tons in any one year; in fact, the country had large imports of rails. For example, in 1881, the imports were 296,000 tons; in 1882, 118,000 tons; in 1887, 77,000 tons; in 1888, 137,000 tons. With the year 1890 the United States began gradually to become a factor in the export of rails. These exports were in 1890, 10,000 tons; 1895, 12,000 tons; 1900, 348,000 tons; 1904, 161,000 tons.

Exports of rails from England, Germany, and the United States for fifteen years.

Year.	England.	Germany.	United States.
	Tons.	*Tons.*	*Tons.*
1889–1891	681,000	128,000	11,000
1892–1894	390,000	107,000	13,000
1895–1897	512,000	120,000	51,000
1898–1900	443,000	130,000	286,000
1901–1903	581,000	255,000	185,000

The record in the export of rails during the last ten years was made by England in 1903 with 604,000 tons, by Germany in 1903 with

379,000 tons, and by the United States in 1901 with 375,000 tons. It will be seen how the United States, which in the eighties imported at times 100,000 tons and more of rails per year, has now become an important factor in the export trade. This has been due in part to the low price made by Americans for rails as well as to concentration, the low price being in fact partly the result of competition.

EFFECTS OF TARIFFS.

From 1875 on, the duty on rails was fixed at $28 per ton, and was by further reductions made, respectively, $17, $13.50, and in 1894 $7.75 per ton, the latter being since that date unchanged. This continuous protective policy has helped the American rail industry onto its feet, and finally has rendered it able to manufacture rails much cheaper than the English, who were formerly the rail makers of the world.

Cost of rails per ton in England and in the United States.

Year.	England.	United States.	American duty.
1875	$48.66	$59.80	$28.00
1880	35.58	67.50	28.00
1885	26.76	28.50	17.00
1890	26.52	31.70	13.50
1895	27.25	24.30	7.75
1898	28.47	17.60	7.75
1900	30.42	32.30	7.75
1901	28.22	27.30	7.75
1902	26.52	28.00	7.75
1903	26.03	28.00	7.75

In the year 1875 the protective tariff on rails was $28 per ton, or 50 per cent ad valorem. In the years 1901–3 American rails cost $28 per ton, that is, the same amount as the duty had been twenty-four years before, the duty in the years named being 28 per cent ad valorem. From the year 1894 to 1898 American rails were cheaper f. o. b. factory in Pennsylvania than the English product f. o. b. at the English coast. At present the prices are about the same. The difference has since the year 1900 amounted to from $1 to $1.50 per ton.

Production of rails in Germany, England, and the United States.

Year.	Germany.	England.	United States.
	Tons.	*Tons.*	*Tons.*
1890	559,000	.....	1,522,000
1895	493,000	604,000	1,021,000
1900	903,000	760,000	2,273,000
1902	921,000	903,000	2,875,000

CONCLUSION.

Thus the United States produces more rails than Germany and England combined. The American steel rail industry can, in view of the facts, look back with satisfaction on the forty years of its development. American steel rail manufacture is to-day so powerful that, except for some extraordinary circumstances, it is able to supply the demand of the country and to furnish in addition a fair amount of

export. The present capacity of steel rail manufacture in the United States is estimated at from 3,250,000 to 3,500,000 tons. The fact that the United States has become an export country for rails will probably become more apparent, year by year, in the future.

PAPER, SOAP, AND GLASS IN CHINA.

PLANTS ESTABLISHED FOR THEIR MANUFACTURE.

In a report from Hangchow, forwarded in January, Consul Anderson called the attention of the paper manufacturers of the United States to the market for American paper in China and gave a number of reasons why American manufacturers ought to be able to introduce their products in the Far East. In a report, also from Hangchow, he likewise called the attention of American manufacturers to the market for soap in China. He reports that he has received a large number of inquiries respecting both paper and soap and says that it is evident American manufacturers expect to push their interests in these lines.

Continuing, Consul Anderson says:

It appears that a number of foreigners resident in China have also come to the conclusion that the market for paper and soap in China needs attention. They have organized a corporation with an authorized capital of about $600,000 gold under the name of The China Manufacturing Company (Limited), for the manufacture of paper, soap, and glass, and any other articles for which there may be a demand, and which the company may be in a position to furnish.

The plans of this company are worth noting. They indicate the situation in the Chinese market. The prospectus states that the demand for paper, soap, and glass is increasing, not only in the open treaty ports of China, but in the interior as well. The prospectus further says:

"It is proposed to take up, first of all, the manufacture of paper. There is available near the site vast quantities of raw material which has never been used in the manufacture of paper in China. This material has been tested by Mr. R. W. Sindall, F. C. S., of London, one of the best known technical paper advisers in the world. He reports very favorably on this product. Mr. A. E. Bell, of London, also reports most encouragingly on the same. Samples of paper actually made from the raw material prove its suitability. The raw material can be laid down at the works at an exceedingly reasonable price. Wuhu, as is well known, is the center of the largest rice-growing district in China; unlimited quantities of rice straw are therefore available at very cheap rates for the manufacture of paper suitable to the Chinese markets.

"The paper trade of China has already attained enormous proportions. In 1904 the import of foreign paper amounted according to customs returns to nearly $1,680,000, while the export of paper from China ports amounted to more than $2,400,000. There are no means of arriving at the quantities of paper made by natives in inland districts, but it is estimated that the value would amount to many millions of

taels annually. These figures give some idea of the immense field waiting to be exploited by the paper manufacturer. The demand for newspapers and magazines is multiplying yearly, and with the opening of schools in all the provinces and the general demand for western knowledge a considerable increase of paper manufacture is necessarily expected. There will, therefore, be no difficulty in disposing of the entire output of the mill at remunerative rates. Already tentative inquiries have been made by influential dealers to dispose of the company's entire output.

"It is estimated that a complete plant for the production of, say, 50 tons of paper per week will cost $120,000 laid down at the works."

THE SOAP TRADE.

American interests represented here are commencing to push the soap trade satisfactorily, and I believe that they will secure and hold the better part of the market. The Japanese are still selling considerable quantities of very cheap goods, and European competition is not diminishing. American prospects are bright, however. Persistence will, backed by proper methods, undoubtedly win. As to the soap portion of the proposed business the prospectus says:

"There is an increasing use of this product among the Chinese, and the market is certain to develop in the future. The present import of soap amounts to more than $600,000 gold per annum. In addition to foreign import there is a considerable manufacture on the part of the natives. In and around the Wuhu district there are available oils and oil-bearing seeds in great abundance and suitable for soap making. The conditions warrant the expectation that this branch of the business when taken up will yield substantial profits."

MARKET FOR GLASS.

The market for glass in China has been growing at a rapid rate for several years, and window glass is growing common in some of the most conservative cities of the interior. At Swatow the Japanese have a lamp-chimney factory, which seems to be doing a successful business. The Chinese factory at Wuhu has not been much of a success, but probably modern methods of management and operation will better things. The company under review proposes to buy this property and develop it. The prospectus says:

"The use of glass for windows, as mirrors, in the form of lamps, chimneys, bottles, bowls, tiles, and many other forms, is rapidly increasing and is still more likely to increase in the future. The importation of glass and glassware amounts to nearly $780,000 gold per annum.

"Valuable machinery has been invented and perfected for the manufacture of all forms of glass, thus doing away with the need of skilled labor and greatly reducing the cost of production. Arrangements have been made to transfer over and beyond the ordinary rights that go with the machines the exclusive rights for the company for the Wuhu district, including the river ports, say from Shanghai to Kiukiang, as soon as the company takes up this work, provided this branch of the manufacture is taken up within a reasonable time. By these patents it will be possible to manufacture locally at a price

which will be less than the present cost of freight and duty from Europe and America. A Chinese company is preparing to make glass at Sohchien, about midway between Shanghai and Tientsin. Their success will serve to test and develop the market. There is room for many such works in this great Empire."

CONCLUSION.

While it is probable that this company, if organized fully in accordance with present plans, will be able to do a good business, particularly in paper and soap, there is no reason why the situation should be at all discouraging for American manufacturers. The demand for paper is increasing at far greater rate than any local supply is likely to increase. The prospect is that before long the paper situation in China will become acute, and it is reasonably certain that a change from present conditions must come before long, no matter how great the local supply promises to become. It will be noticed that the prospectus of this company proposes to sell paper at over 5 cents gold per pound ($102 gold per ton); and, quality and everything considered, American manufacturers can produce and sell paper in China at cheaper rates than this at the present time.

COMPAGNIE GENÉRALÉ TRANSATLANTIQUE.

Consul Thackara transmits the following résumé of the annual report for the year 1904 of the board of directors of the Compagnie Générale Transatlantique, issued at its meeting in Paris on June 19:

The assets of the company December 31, 1904, were $25,672,642, a decrease of $4,311,343 as compared with the previous year. They were as follows:

Value of fleet, buildings, etc., $17,052,412; construction fund of "La Provence," $1,242,694; provisions and stores on hand, $755,503; advances made for rent and other purposes in 1905, unimproved land, etc., $213,469; various debtors, $1,620,241; bonds and other securities, $4,788,323; total, $25,672,642.

The liabilities were $25,552,552; net profits for 1904, $120,090.

The total receipts for 1904, including the bounties and subsidies received from the French Government, were $10,381,029, a decrease of $259,387 compared with 1903.

The total expenses in 1904 were $8,784,489, a decrease of $340,685 compared with the previous year. The excess of receipts over expenditures for 1904 was $1,596,540.

Company's business in 1904 as compared with 1903.

	1903.	1904.	Decrease (−) and increase (+).
Passengers	290,594	244,250	− 46,344
Merchandise ..... tons..	771,790	850,705	+ 78,925
Packages ..... number..	11,532,433	9,925,641	− 1,606,792
Specie and securities ..... dollars..	23,468,929	56,168,581	+32,699,652
Postal packages	965,682	1,030,927	+ 65,245
Voyages	954	904	− 50

DYNAMITE IN MEXICO.

Consul-General Parsons, of Mexico City, reported explosions in the Mexican National Dynamite Factory at La Tineja, in the State of Durango, which was published at the time for the information of our dynamite manufacturers.

Consul-General Parsons now reports that the plant has been fully repaired and is in running order. On account of the explosion the company ran out of dynamite, and in fulfillment of its contract with the Government it imported quantities to cover all demands. Orders have been kept steadily filled, and even at the present time there is foreign dynamite on its way to Mexico.

The Mexican Herald says:

"This imported explosive has been sold to consumers at exactly the same price as the article manufactured by the national company, the company's agreements with the Government stipulating the exact figures at which the various grades of dynamite must be laid down at the chief points of consumption in the country."

NORWEGIAN CODFISHERIES.

Consul Cunningham, of Bergen, Norway, furnishes the following facts regarding the fisheries of that country:

By comparing the catch of this year with that of previous years a fairly accurate estimate can be formed of the total intake of codfish in Norwegian waters this season. In all places, except the Finmarken district, the season has closed, and even there the former number of boats is not engaged, though the week just closed totaled the second largest catch of the year.

Unusually severe and protracted stormy weather very greatly retarded fishing this winter; even after satisfactory evidence of the presence of excellent fish was to the fore, the weather did not permit the fishermen to go out as early as usual by some weeks. During the entire spring the north has been visited by an unusual number of severe storms, notwithstanding which the returns will prove more satisfactory than for any of the last five years. The number of fish will probably not be so great as during some other years, but the quality is fine, yielding a very much greater amount of by-products, and consequently affording a superior fish for the market.

Catch of fish in Norwegian waters to June 7, 1903, 1904, and 1905.

Catch.	1903.	1904.	1905.
Total catch	43,000,000	45,000,000	42,750,000
Prepared as klipfish, roundfish, etc	27,200,000	29,100,000	27,700,000
Prepared as hung, roundfish	15,637,000	14,860,000	14,300,000

By-products of Norwegian fisheries to June 7, 1903, 1904, and 1905.

By-products.	1903.	1904.	1905.
Medicinal cod-liver oil ..... gallons..	71,564	426,084	1,047,487
Other oils ..... do....	177,786	191,335	298,116
Roe ..... pounds..	602,677	621,460	912,470

The foregoing is but a partial report, being only to, approximately, June 7. The total catches at the close of the season were 47,700,000 in 1903 and 49,600,000 in 1904, from which 73,910 gallons of medicinal cod-liver oil in 1903 and 226,503 gallons in 1904 were derived.

The production of cod-liver oil will be greater than for any of the past five years, and it is especially pleasing to know that in the Lofotens, where the choicest fish for the production of cod-liver oil are taken, the catch has been greater than for a number of seasons, and the fish being particularly fine and fat the quantity of genuine Lofoten oil will be the greatest for a number of years.

The price of medicinal cod-liver oil has fallen very much as the season has advanced. At present oil is sold at $20 to $22 per barrel.

SISAL HEMP IN TURKS AND CAICOS ISLANDS.

Consul Moffat, of Turks Island, British West Indies, in the following letter directs attention to Turks and adjacent islands as profitable fields for raising sisal grass. He says:

Considerable attention appears to be directed toward these islands as a suitable and profitable field for the growing of sisal grass, which may be partially due to the recent large investments made in the sisal fiber industry in Australia, East Africa, and elsewhere, stimulated, no doubt, by the relatively high quotations maintained during the past two years for the article.

For several years a company almost entirely American has been operating and extending its plantation here, and at the present time has 1,100 acres under full cultivation on the Caicos Islands, which form a part of this dependency. The entire output from this plantation is shipped to the United States. A newly formed company, which recently purchased the property and improvements of a company which had gone into receiver's hands and stopped extracting fiber some two years ago, will, within a few weeks, commence the shipment of fiber. Their product, although the company is of English chartering and the entire stock held abroad, will be exported exclusively to the United States.

The United States market appears to present a more remunerative and satisfactory outlet for the fiber, for, while ocean freights are lower to English ports than to New York, prices in England are at somewhat recessional quotations. Furthermore, the United States market quotations represent sight cash, while the foreign market quotations are subject to a ninety-day cash discount. These offsetting conditions permit an advantageous net result through exporting to the United States.

The Government still holds several thousand acres available and suitable for sisal grass cultivation, upon which, I am informed, long leases may be had at an average nominal annual rental of 5 pence (10 cents) per acre.

Recently a representative of English capital visited the colony, while many inquiries, through correspondence, have been received from both Europe and the United States, which facts are indicative of a keen appreciation of the possibilities of the field for further profitable investment. This may be accounted for when one considers that the sisal plant, when ready for cutting, can be cut, cleaned, etc., and landed at New York at a known cost of less than 3 cents per pound. The margin of profit, therefore, at prevailing quotations is most satisfactory, and should permit generous returns on the investments made.

The quality of the article produced in these islands is conceded to be equal to if not superior to the best grades of Yucatan fiber, and has, in consequence, commanded immediate market without question as to quantity.

From evidences at hand consequent to the large acreage under cultivation ready for immediate cutting, and the completeness of the installed equipment, it is reasonable to assume that the coming year will witness a large increase over the amount heretofore exported.

AMERICAN DEFICIENCIES.

Germany has 43 large steamships in her South American service, and 6 more are nearly ready for launching. The 49 vessels aggregate 217,195 gross tons. Most of them are of recent construction, 19 having been built in the years 1900 to 1905. They ply on four routes, all starting from Hamburg, connecting the latter port with the La Plata States and Brazil. Germany's flourishing export trade to South America, it is believed, is mainly due to this direct and prompt transportation service. In a letter furnishing the foregoing information Consul Guenther, of Frankfort, Germany, says that an English journal, speaking on this service, quotes the following from an American merchant in Buenos Aires:

"We here have no parcels post connection with the United States, lacking which my firm is obliged to order every year many thousand dollars worth of goods from Europe which I would prefer to get from home. We even have no regular mail service with the United States. Reply letters from there take three months ere they reach us here, whereas letters from Europe consume only a fortnight in getting here. Steamers from the United States always contain petroleum in their cargo, and for that reason are not allowed to enter the inner harbor, but are obliged to discharge their freight on lighters, which causes delay and inconvenience. Goods arriving from Europe can be disposed of within five days while goods from New York require four weeks after their arrival here before we can dispose of them. That this condition handicaps trade with the United States needs no further demonstration."

PUBLIC UTILITIES IN FRANCE.

CONCESSIONS TO CORPORATIONS STRICTLY GUARDED.

Consul-General Skinner says any one seeking information in regard to the ownership of public utilities in France, might profitably consult the following works: Fleuny: Excursions dans le domaine du Socialisme, Dangers du Collectivisme, etc., 1 volume, 2 francs. Alf. Naquet: Le Socialisme collectiviste et le Socialisme libéral, 1 volume, 2 francs. Paul Leroy-Beaulieu: Le Collectivisme, examen critique du nouveau socialisme, 1 volume, 8 francs. He says further:

Private ownership not only of public utilities, but of the air above the earth and the water beneath the surface thereof, is subject in France to restrictions which do not obtain in America. In practice, gas works and other public and semipublic utilities are frequently operated and owned by private corporations, but the concessions under which they are operated usually limit this ownership, and reserve to the people at least a share in any advantage resulting from improved methods and the increase of population. City houses are limited as to height, and while landed proprietors may do anything they like with the surface which they own, the hidden contents of the earth belong to the nation, and can be mined only by first obtaining a concession from the State. Before any such concession is granted due notice is given to the public, and the owner of the surface derives no particular advantage from that fact in laying his proposition for a concession before the national authorities.

CONSTRUCTION AND OPERATION OF RAILROADS.

French railroads are constructed by corporations, and are usually operated under concessions given for a long term of years, with a provision by which the State reserves to itself the right to purchase the lines ceded, and by which at the expiration of the concessionary period the property reverts automatically to the State. During the term of the concession, if the private company owning the property fails to earn reasonable interest upon the bonds, the State makes up the deficiency.

THE WATER SUPPLY.

The city of Marseille owns its waterworks and likewise a very important canal connecting this city with the river Durance. In addition to supplying the community with water, the city supplies the same for irrigating purposes to agriculturists whose property is within reach of the before-mentioned canal. There are also in the south of France, particularly, innumerable irrigation canals, which are usually the result of cooperation on the part of the interested landowners. The State has organized a government department called the bureau of agricultural ameliorations, which furnishes, upon the request of interested localities, complete plans for the proper construction of these canals, without charge; and the law provides that when a majority of the landowners within a given area have determined that the construc-

tion of an irrigation canal is necessary the unwilling minority must participate in the expense of construction or submit to expropriation. If the numerical majority of landowners control but a small fraction of the actual surface to be irrigated they may be outvoted by a minority whose landed interests are greater.

RAILROADS AND GAS IN MARSEILLE.

The gas contract in the city of Marseille is now held by a private company, and a new contract constitutes an important local issue. There appears to be no general demand for immediate full municipal ownership. The street railways of Marseille are all owned by the Compagnie Générale Française de Tramways. The service is excellent; there are lines in every direction. With the exception of one circular line of special character upon which the fare is 3 cents, the fare is everywhere else 2 cents. No transfers are given. The concession for these lines was originally granted by the State to the city of Marseille and by the city conveyed to the operating company. It is to be noted that the municipality does not exercise a free hand in municipal matters, but must first obtain a concession for itself from the National Government. The concession in this case was signed originally for fifty years, at the end of which period, "and by the sole fact of this expiration," the city will obtain full ownership of the tracks and system, including all property occupying any portion of the public domain.

There are abundant means of preventing deterioration of the property during the last five years of the concessionary company's exploitation, in consequence of willful negligence. Provision is also made for the acquisition upon reasonable terms of all buildings, machinery, and rolling stock necessary for the exploitation of the system, at the expiration of the fifty years. In the meantime, the company must pay to the city an annual sum of $19,300 until the annual receipts reach $1,351,000, whereupon, in addition to this payment the city will also receive 4 per cent upon the excess of receipts over $1,351,000, and up to $1,544,000. When the receipts reach the last-named amount in any one year, the city will be entitled to an additional 1 per cent upon such excess, until such excess reaches $193,000, and thereafter for every additional 1,000,000 francs ($193,000) of annual receipts 1 per cent will be added to the city's share.

CONTROL OF THE HARBOR.

The harbor of Marseille is likewise controlled by the State as the property of the nation. The State has leased control of the most important sections to a public-service corporation, which has charge of the bonded warehouses. The concession for the erection of these warehouses was originally granted to the city, and by the city assigned to the Compagnie des Docks et Entrepôts, which pays the municipality an annual rental of $19,300 for this privilege. This company is subject to close supervision both as to services performed and charges which may be made for services. Other portions of the city water front are controlled by the chamber of commerce, which has built docks and warehouses of the most permanent character, and lets them for the benefit of the whole community.

CHAMBERS OF COMMERCE.

The chamber of commerce is itself a recognized branch of the public administration, and is not a private corporation, as is the case in America. In France every man who pays a business tax or "patente" is entitled to vote for members of the chamber of commerce, and also to transact business upon the floor of the bourse. The chamber of commerce is a legislative as well as an administrative body, communicating officially with the minister of commerce and through him with Parliament. It thus happens that there is more real democracy in French business circles than in the United States, where seats in our stock exchanges are bought and sold like any other articles of value. The result of the system is that the chamber of commerce is quickly responsive to the sentiment of the business community, and the annual elections frequently take place with as much excitement as accompanies the ordinary municipal and State elections. The business community also elects a tribunal of commerce, which has final jurisdiction in a large variety of commercial cases, and which sits in the chamber of commerce building. Both the members of the chamber of commerce and of the tribunal of commerce must be actively engaged in business pursuits.

JAPAN AND THE OPEN DOOR.

SIGNIFICANT UTTERANCE BY COUNT OKUMA.

Count Okuma, one of Japan's eminent statesmen, has contributed an interesting article on Manchuria and Korea to the Sun Trade Journal of Tokyo for June, which has special significance at this time. The needs of Japan for the open door in Manchuria and Korea is plainly set forth. Within a little more than a generation Japan's population has increased from thirty to fifty millions, which is mainly due to its adoption of methods of western civilization. This large increase in population leads Count Okuma to point out Japan's limited resources for feeding its people. He says:

"Agriculture failing to feed the people, we must therefore look to commerce for the subsistence of our nation. As fields for commercial activity for Japan no countries can be more suitable than Manchuria and Korea, where our influence is being rapidly established."

The combined area of Manchuria and Korea is three times that of Japan, while the population of Japan is twice as large as that of the two countries first named. Manchuria and Korea produce more food stuff than they can consume, and therefore Japan can safely depend on them for this class of necessary supplies. Modern methods and machinery, the introduction of which may reasonably be expected to follow the termination of hostilities between Russia and Japan, will largely increase the productive power of Manchuria and Korea. Count Okuma recognizes this, and states that "a prosperous commerce will be established in the Far East by Japan importing raw material from, and exporting manufactured goods to, the continent of Asia." Continuing, he says:

"Manchuria wheat is said to be superior in quality to Canadian wheat, but the most promising enterprise in Manchuria will be the plantation of beets for the manufacture of sugar. The Manchurian climate is

similar to the German, so the raising of beets is quite as feasible there as in Germany. Already Japan consumes about 250,000 tons of sugar a year. We may be able not only to discontinue sugar imports from Germany, but to export refined sugar to Manchuria.

"The object of the war is the 'open door' and not territorial occupation. The suzerainty of Manchuria must be returned to China, under certain conditions, but not until order has been restored and its future safety guaranteed. Then we may expect great industrial prosperity there. The economic loss sustained by us on account of the war will be more than balanced by the profit we shall derive from the economic exploitation of Manchuria. This will form a basis for the solution of the population problem of Japan.

"It is a mistaken opinion that Japanese occupation of Manchuria and Korea is of primary importance in order to push forward our economic enterprises there. Japan, by this war, has obtained a predominant position in Manchurian and Korean economics, and the present is the moment when the question of exploiting those countries ought to be economically solved."

BRITISH COTTON TRADE PROSPEROUS.

Consul Bradley, writing from Manchester, in reply to a request for information concerning the conditions of Great Britain's cotton trade says, that there has been without doubt a very prosperous condition among the cotton manufacturers in that district during the past three months, notwithstanding newspaper reports to the contrary. He says:

The profits of twenty-one spinning mills for the past few months has been at the rate of 12½ per cent at least on all capital employed, after allowing from 3½ to 4½ per cent on loans and mortgages. Yesterday the quarterly meetings of three mills near Rochdale, with an aggregate of 250,000 spindles, all using American cotton, showed profits, with which dividends at the rate of 30 per cent could have been paid, an advance of 100 per cent on the profits of the same period last year. Weaving mills are said to have done even better, but accurate details are not now available. Buyers say that these mills base their sales on the raw cotton at 14 cents per pound. All mills are said to have orders for eighteen months ahead, and to have contracted for cotton to fill their needs for that length of time.

IMPORTS OF RAW COTTON.

The imports of cotton into the United Kingdom for June, 1905, surpass in value those of June, 1904, by $8,540,717.23, and the value of exports of yarn and textile fabrics for the same period exceeds that of June, 1904, by $25,127,802.89. This prosperity does not include all classes of work. The sewing cotton manufacturers are said not to have shared in it; and the annual meeting of the twenty-two leading firms, forming the Fine Cotton Spinners' and Doublers' Association (Limited), showed the profits of the associated firms to be $786,416.66 less than last year. In summing up, the chairman of the association said, "It might have been thought, in view of the improvement in

the cotton trade during the last few months, that in the second half of the year they might have recovered their position, but he must frankly say that they had not yet, at any rate, participated in the boom. In fact, the second half of the year was worse than the first, but he had hopes that those engaged in the finer qualities would soon have an improvement."

In regard to the number of new mills building, there seems to be between thirty and forty, representing 4,000,000 new spindles and 15,000 new looms, which, altogether, will require about 10,000 operatives. The looms now building will not require over one-fifth of the possible product of the new spindles, leaving four-fifths for export.

DANGERS AND DOUBTS.

There is fear expressed in some quarters that the promoters of mill companies are going beyond the needs of the trade. A recent article says: "Another wave of cotton-company floating has shown itself. The latest is that the Goyt Spinning Company, Marple, has been registered to erect a concern to hold about 100,000 spindles. The Togo Company has also been registered. Then a mill is to be erected at Kearsley, near Stoneclough; another at Eccles, making the third new one in that district; one at Chorley, and, last, one at Waterhead, near Oldham. The question arises, where are the work people to come from to fill these forty new mills that are in hand? Already in some districts, notably Rochdale, employers are finding some difficulty in keeping hands at the older concerns. It is a matter of interest to state that the Bell Mill, Oldham, has cost only 22s. ($5.36) per spindle. It is a finely equipped concern—one of the best."

FOREIGN TRADE OF EGYPT.

According to recent figures published in Germany, the following articles constituted the principal imports into Egypt in 1904:

Articles.	Value.	Articles.	Value.
Cotton textiles	$14,847,485	Flour	$3,429,555
Other textiles	5,024,545	Notions, fancy goods, cutlery, etc.	1,901,680
Clothing	3,742,915	Glass, porcelain, and earthen ware	1,348,425
Iron and steel and metal ware	8,563,980	Furniture	1,710,695
Machines	3,590,470	Dyes and colors	798,380
Locomotives	350,100		

The Egyptian exports consisted chiefly of cotton valued at $83,513,650; cotton seed, $7,600,830; and onions, cane sugar, gum arabic, and beans to the value of from $1,200,000 to $1,300,000 for each product named. Regarding opportunities for extending American trade in Egypt, Consul-General Guenther writes from Frankfort:

This consulate-general has repeatedly called the attention of our manufacturers to the splendid market which Egypt presents for their products, with little effect seemingly, for they have left the market to European manufacturers and exporters. Egypt's import of iron and

steel in 1904 amounted to 85,400 tons, against 48,495 tons three years ago. This large import of iron and steel was drawn from the following countries: England, 27,352 tons; Belgium, 42,880 tons; Germany, 13,491 tons; France, 1,149 tons; Sweden, 270 tons; Austria-Hungary, 206 tons; the United States, 52 tons. This import comprises steel bars and rods, hoop, band, and structural iron, steel rails, wire, car springs, and castings. Iron and steel hoops for baling cotton, supplied by England and Germany, form an important item.

SCHOOL FOR MAKING HATS IN PANAMA.

Consul-General Lee, of Panama, reports a national movement for promoting the manufacture of genuine Panama hats. He says:

A central school of hat making, and for the cultivation and improvement of toquilla straw, has been established in the district of Arraijan. The school is provided for by Government funds, and will be under the authority of the minister of public works. Fourteen scholarships have been established, two to be filled from each of the seven provinces of the Republic. Besides the holders of these scholarships, pupils who so desire will be received in the school as externs to the number of 36.

Applicants for scholarships must be not less than 15 years of age, of good conduct and health, willing and desirous of learning hat making, have good eyesight, be of cheerful disposition, and, if possible, have had some previous knowledge of making hats from toquilla straw. Each pupil will be expected, as a payment for his teaching, to contract an obligation to teach the same industry in whatever place may be designated by the Government; in case of refusal to do so, his father or guardian will have to repay all the expenses caused by his education.

The school was opened June 15. The governors of all the provinces have been duly notified to inform the public, and receive applications for admission. The three officials of the school have been selected, and proceeded, on May 4, to Ecuador, where most of the "Panama" hats are made, there to engage the services of workmen. General interest is taken in this undertaking, and it is hoped that in the future Panama hats will be such in reality, and not in name only, as they are to-day.

GERMAN INDUSTRIAL PLANTS IN AUSTRIA.

Consul Harris, writing from Chemnitz, Germany, says that considerable discontent is being manifested in some parts of the German Empire over the commercial treaty recently concluded between Germany and Austria. Not only are there a large number of German manufacturers who will build branch factories in Austria, but almost an equal number intend to transplant their entire business, including workmen, offices, and factory, to some suitable part of Austria, which for the most part will probably be just across the border in Bohemia.

It is claimed that a large machine factory in Döbeln, Saxony, which gives employment to 700 workmen, will shortly move to Bohemia. Within a year three factories have left the little town of Buehholz and

taken up their quarters across the border. In the annual report of one of the largest chemical manufacturing establishments in Elberfeld the stockholders are informed that the new commercial treaty with Austria will force the company to erect a branch in that country.

It can no longer be denied that Bohemia will greatly profit from the German-Austrian commercial treaty. This country still has vast resources of timber and water power unexploited, and under the leadership of Saxon manufacturers it may one day well become to Austria-Hungary what Saxony is to the German Empire—that is, one of the most thriving industrial countries in the world.

CONCESSIONS BY PERU.

A recent letter from the American minister at Lima, Irving B. Dudley, furnishes the following translation of a supreme decree of June 2, providing that all material imported free of duty by virtue of any concession in force shall bear an indelible and visible mark, as therein described. The decree resulted from an inquiry of the general superintendent of customs regarding the manner of interpreting, for its exact execution, the supreme resolution of June 10, 1904, which provides that all material or any article which may, in virtue of a concession in force, be imported free of duty, shall bear an idelible and visible mark, even when in use, together with the name of the company for which it is destined.

1. The mark to which the decree refers shall be affixed on the receptacles containing liquid materials subject to duty, and when two or more receptacles are contained in another made of wood, the mark shall be branded on the latter.
2. Wire coils and bales of cotton waste shall have the mark painted on the wrapper, whether it be a whole or partial covering.
3. Wire or iron nails shall have the mark branded on the barrel or keg containing them.
4. Pieces of malleable iron, steel, or any other material permitting it shall be marked with a punch in various places, the marks being made at convenient spaces from each other and regard being had to the dimensions of the piece.

Castings, whatever may be their material, class, and number, must bear the mark in relief, which must be cast at the same time as the piece.

ATTACHÉS AT GERMAN CONSULATES.

Consul Harris, writing from Germany, says that according to the latest published list there are twenty-one attachés connected with various German consulates.

Six act as counsel for mercantile affairs at Antwerp, Asuncion, Hankau, Moscow, Naples, and New Orleans. Commercial experts are stationed at Buenos Aires, Chicago, New York, Pretoria, Shanghai,

St. Petersburg, and Valparaiso. In Copenhagen, London, Montreal, Paris, St. Petersburg, Moscow, and Sydney, there are experts in agriculture and forestry. Aside from these there is an architectural attaché stationed at Cairo.

The remarkable feature about this attaché service is the aim and scope of the information obtained, not only for merchants and manufacturers at home, but for farmers as well. The reports of these experts, for the most part, are not made public, but are quietly distributed to the chambers of commerce and agricultural societies throughout the country, whence they find their way direct to those most in need of the information. It is primarily intended that only Germans should profit from these reports, and this policy is being carried out in a very thorough manner.

BRITISH AND GERMAN TONNAGE.

THE CHANGES OF A DECADE.

The following report on the changes that have taken place in the tonnage of Great Britain and Germany the past twenty years is furnished by Consul-General Guenther, of Frankfort, Germany:

During the last twenty years a great change has taken place as to the tonnage of all the larger sea-transportation companies of England and Germany. Among the twenty-five English and six German companies with more than 100,000 gross register tonnage each, there is but one, the English Anchor Line, whose tonnage now is less than it was in 1884. Among the English companies the British India Steam Navigation Company heads the list with 446,000 gross register tonnage. In 1884 it had 174,000 gross register tonnage and was second only to the Peninsular and Oriental Steam Navigation Company, which to-day occupies third place.

The English White Star Line, second on the list of to-day, had only 58,000 gross register tonnage in 1884, occupying the eleventh place; since then it has increased its tonnage to 388,000 gross register tonnage. This considerable amount is divided among thirty-one vessels, so that the average tonnage of each White Star steamer is about 12,000 gross register tons. The White Star Line can boast that, as far as the average tonnage of its vessels is concerned, it is unsurpassed by any other company in the world.

Next in tonnage follows the Peninsular and Oriental Company. Its fleet, which in 1884 had more than 175,000 gross register tonnage, and was then considered the greatest navigation company in the world, has for the last few years been steadily receding; it, however, still has a gross register tonnage of 326,000 tons, nearly double that of 1884.

The next greatest company, Elder Dempster Company, had at one time a greater tonnage than in 1904, otherwise it resembles the White Star Line in rapid growth. Its present tonnage of 312,000 gross register tons is about seven times as large as its tonnage in 1884. The Union Castle Line is a fusion of two companies, the Union and the Castle lines, which in 1884 had an aggregate tonnage of 96,000 gross register tons. To-day it has 298,000 gross register tons. Then fol-

low five companies of about the same tonnage each—the Leyland Line, with 261,000 gross register tons (53,000 in 1884); the Ellerman Line, less than twenty years old, with 260,000 gross register tons; Alfred Holt & Co., with 254,000 (51,000 in 1884); the Cunard Line, with 254,000 (51,000 in 1884). This company had in 1903 only 148,000 gross register tonnage, but the new steamers built with governmental aid have raised it from fourteenth to ninth place among the English lines. Like the White Star Line, it uses almost exclusively large steamers, the average tonnage of which is 10,500.

The Elan Line, with 203,000 gross register tonnage (68,000 in 1884), closes the list of English companies with more than 200,000 gross register tonnage.

The German sea navigation companies consist of about 50 per cent of the Hamburg-American Line and the North-German Lloyd.

Twenty years ago the Hamburg-American Line had a fleet of about 60,000 gross register tonnage. To-day it owns a steamer fleet of 719,000 gross register, tonnage, according to its last annual report. The North-German Lloyd had 103,000 gross register tonnage in 1884, which in 1904 had increased to 573,000. Both companies have therefore, in the short time of twenty years, surpassed all English lines. To-day they stand at the head of all sea navigation companies in the world.

Third place among the German lines is occupied by the "Hansa" Company, which is about twenty years old and has 215,000 gross register tonnage. All the other German lines have less than 200,000 gross register tonnage. Only the Hamburg-South American, the German-Australian, and the "Kosmos" lines have more than 100,000 gross register tonnage each.

NEW DISCOVERY OF COAL IN CANADA.

The Halifax Herald of July 19 contains the following:

The biggest coal strike ever made in Canada was made yesterday, when Deputy Inspector of Mines Neville uncovered the northern outcrop of the Mullins seam near Lingan, about 9 miles in a straight line from where the Cape Breton Coal, Iron and Railway Company are operating at Broughton. This discovery adds over 100 per cent to the Dominion Coal Company's proved coal areas on land, and assures numerous other leaseholders of a profitable coal seam in their leases. The Dominion Coal Company hold the leases upon which the strike has been made, and will undoubtedly proceed with their development. The seam is known as the Mullins seam and has been lost to prospectors for upward of fifty years. It showed 6 feet of clean coal, equal in quality to the coal of the Low Point areas, and its outcrop line will measure from 18 to 20 miles, extending from Lingan to Mira Bay, its greatest distance from the coast line being at Broughton, which is about 6 miles from here. This shows a land area of about 100 square miles, or 619,520,000 tons of coal. President Ross is jubilant over the discovery, as it adds a long lease of existence to the operations of the Dominion Coal Company. The discovery has created a big sensation among mining men. The seam is only about 70 feet from the surface, but this is only on the outcrop. The find also establishes the important fact that the Tracey and the Mullins are two distinct seams, a matter about which there had been some doubt.

FOREIGN MARKETS FOR TEXTILES.

CAUSES FOR AMERICAN BACKWARDNESS.

Mr. William Whittam, jr., of Charlotte, N. C., secretary of the American Cotton Manufacturers' Association, has prepared an article for American Industries on foreign markets for textiles which contains much information of value to manufacturers of cotton goods. Mr. Whittam gives prominence to the fact that while the United States supplies the world with about 75 per cent of the raw material we stand sixth in the list of nations which export cotton goods. The annual export of this class of manufactures approximates $650,000,000, including yarns, wearing apparel, etc., of which Great Britain is credited with $358,000,000, Germany with $79,000,000, and the United States only $23,000,000. India's imports last year amounted to $101,600,000, and that of China $83,000,000, the bulk of which went from Great Britain. Mr. Whittam says we can sell in India on an equal footing with England and every other nation, yet we have practically given this vast market for cotton goods no attention. Regarding some of the causes for American delinquency, Mr. Whittam says:

There are many reasons for the insignificance of our American position, and nearly all of them discreditable to the business acumen of the managers of our industry. To-day we are very much in the predicament of a dealer who would offer to sell a customer a buggy when he wanted to purchase a farm wagon. We are not offering the goods the purchaser wants and insists upon having. In China we dispose of a good many sheetings and drills. This trade has grown from the mere chance that these classes of goods, which were originally developed to fill a demand in our home market, at the same time happened to be equally suitable to the requirements of the Chinese. These fabrics do not find a ready sale in the rest of the world's markets. In 1904 China took altogether 1,493,105 pieces of drills, or 59,724,200 yards, our share being 1,336,111 pieces, measuring 53,444,440 yards. Of sheetings her takings were 2,565,056 pieces, or 102,602,240 yards, our proportion being 1,962,000 pieces, equivalent to 78,480,000 yards. These are practically pure sized goods. When we come to the cheaper "weighted" fabrics, note the difference. Of shirtings she imported 3,483,000 pieces, and we only participated in this, the leading class of imports, to the extent of a beggarly 180,560 pieces. Now these heavily sized shirtings are sold not only in China more largely than any other class of cloth, but exactly the same goods are consumed in enormous quantities in India, Japan, Turkey, Italy, and the Levant.

GOODS USED IN INDIA.

A fabric which goes almost altogether to India is known as a "dhootie." This cloth is by far the most important fabric either imported or manufactured by Indian mills. It is practically a shirting, ornamented by stripes of various kinds. These stripes may be gray, bleached, or colored. The former are made by drawing the

ends to form the stripes, three, four, or more, instead of two, in a dent. Colored stripes run from one-half to 4 inches in width. These goods are made up into scarfs and sometimes have headings at each end of the scarf. The headings run from the simple insertion of a few picks of colored yarns to elaborate designs covering 20 inches at the junction of two scarfs. They are made from 22 to 44 inches wide, and usually 40 yards to a piece. The scarfs vary from 2 to 5 yards each. The yarns used are from 30s to 40s warp, and 30s to 60s filling. Practically similar goods are made for the Philippine Islands under the name of "patadionga," while for the Java trade like pieces are known as "sarongs." There is an immense turnover in these fabrics, and all that remains for us is to procure samples and prices, decide whether we can compete in these open-door markets, and then the only structural change that many mills would need to make would be to construct apparatus for the mixing and fermenting of suitable size for the percentage of weighting required.

Discussing the meager foreign trade of the United States in cotton manufactures, Mr. Whittam says that when American manufacturers decide to make what the foreigner wants, other reasons may be found for our backwardness. On this point he says:

Some of the most weighty of our present hindrances are lack of knowledge as to packing and shipping details for the different markets, ignorance of foreign customs, regulations, and requirements, and aversion to extending credit accommodations. There is an utter dearth in the supply of properly trained commercial representatives to cover foreign territory, and, finally, we don't have even the rudiments of a selling system for reaching foreign consumers at a reasonable cost. All these attributes are essentially of slow development; but when any house finally determines to enter the race for foreign trade, it will be necessary before we can command success that we give and take hard knocks, and any preconceived rosy view of big profits easily acquired which the beginner may hold will be speedily and effectually disposed of in the fierce brunt of international competition. Yet perseverance, ability, and true American push will give the same results when applied to potential customers, whether at home or abroad. The demand is there; its character is well defined. It remains for us to decide whether our own industry shall supply at least its fair share, or whether we shall remain content to spin enough of our American-grown cotton to cover our own backs and sell the remainder for Europe to spin and weave to clothe the rest of the world.

DECLINE OF BRITISH TRADE IN AUSTRALIA.

Hon. R. W. West, a senator of Australia, and who a few years ago was minister of customs for Victoria, is visiting London, and recently addressed the Australian Chamber of Commerce of that city on intra-imperial trade, a report of which was made by the London Times. Senator West explained that the feeling in Australia was favorable to preferential trade with the mother country, but declared that any

commercial arrangement made must be mutually advantageous. He spoke of the decline of imports into Australia from Great Britain, and cited some of the reasons for the decline. In the period 1891–1895 the percentage of imports to Australia from the United Kingdom was 71.27, which diminished in the period 1901–1903 to 57.2. On the other hand, the percentage imported from foreign countries in 1891–1895 was 17.09, and in 1901–1903 this increased to 30.48. The business methods of the British merchants was in part responsible for the decline, and Senator West directed attention to some of the causes, ascertained by an investigation made while he was minister of customs, for that result.

He explained that American goods and sometimes German goods were more closely packed than British goods, without in any way increasing the risk of breakage or damage. British goods could commonly be picked out in the stock of a hardware store by the greater number of broken boxes. Victorian merchants said, "the Germans bring their goods to the buyers, whilst the British wait for the buyers to come to them," and undoubtedly this was the experience in Victoria. Large numbers of German manufacturers were represented by traveling agents, who displayed the greatest energy in transacting business, an energy which amounted to pertinacity. The British lost the trade of Victoria in tacks by failing to pack them in cardboard boxes instead of paper packages. They were, to a large extent, cut out in the market for cartridges by declining to pack them in packages of 25 instead of 100. Both these defects had now been remedied, but the trade had to be regained. In very many cases the shape of British articles was unsuitable to Victoria; the hammer, for instance, was not, in the opinion of Victorian carpenters, nearly so well shaped as the American hammer, but the British pattern seemed unalterable; the same might be said of many tools and articles in common use.

OIL FIELDS IN PERSIA.

STEPS TAKEN FOR THEIR DEVELOPMENT.

Consul Norton, of Smyrna, Turkey, calls attention to the existence of deposits of petroleum-bearing rocks in Mesopotamia, west of the Persian frontier. The company having the franchise for the construction of the Bagdad Railroad has the concession also for the exploitation of these oil fields. Engineers and oil experts who made an active and complete study of the region referred to have returned to Constantinople with most flattering reports of the extent, nature, and possibilities of the Mesopotamian oil region. The importance of such a source of fuel to the railroad in a country entirely destitute of other fuel, as is Mesopotamia and nearly all the route traversed by the new railroad, is sufficiently apparent. Mr. Norton directs attention to the fact that the possibility of developing a similar section in Persia, when concessions are made less hampered by administrative methods than in the western section, may have an important

bearing on the future of the Baku region as well as on the foreign oil trade of the United States. Consul Norton writes:

There appears to be a rather broad petroliferous belt extending in a northwest-southeast direction from Kurdistan down through Mesopotamia, ancient Assyria, and Chaldea and the adjoining portions of Persia to the Persian Gulf. There are many indications that this belt is prolonged to the east, passing through Baluchistan into India. In the Persian section the surface indications are excellent. Bitumen is of frequent occurrence. Crude petroleum often oozes from the ground, and on certain streams layers of oil are encountered several inches thick. The natives often dip easily from the surface of these streams the oil which they require for use as a combustible or as an illuminant.

Various abortive attempts were made toward the close of the last century to develop the Persian oil fields. They were included in the extensive concessions granted fourteen years ago to the Persian Mining Corporation, an English company organized to exploit the entire mineral wealth of the realm, with a nominal capital of $5,000,000. This organization came to grief for several reasons. It attempted too many things at once and spread its operations over too extended a territory. Worst of all, it left out of its calculations the all-important item of cost of transportation. The mineral deposits of Persia are of unquestioned richness, but it was found too often that the caravan charges for bringing ores to the seaboard represented more than double the current value of such ores delivered at London. The outcome was easy to foresee. After sinking much money in a number of metallurgical enterprises the mines and much valuable machinery were totally abandoned. In 1901 Mr. D'Arcy, an English capitalist, purchased the oil concession and devoted his energies entirely to developing a single form of exploitation in a limited region, special attention being given to solving the questions of transportation. The lack of fuel would, of course, cease to be felt when oil was once secured. Surveys were made, oil found, pipe lines projected, etc.

A PROPOSED PIPE LINE.

The route from Kasr-i-Shirin to Dizful and thence to Mohammerah crosses the mountains by passes ranging from 5,000 to 6,000 feet in height, and then descends by the wild and little-known valley of the Kerkah River to Dizful. From there to Mohammerah the way leads over essentially level ground. At Mohammerah connection can be made with ocean tank steamers. The total length of this pipe line would be 360 miles. The first section to Dizful passes through Luristan a province notorious for the hostile and unreliable character of its various tribes. Satisfactory arrangements were, however, made at the time of the survey with the various chieftains along the route to assure the safety of the proposed pipe line, while it was ascertained that the physical difficulties to be overcome were not such as to involve an extravagant outlay.

SUCCESSFUL BORINGS.

The first borings at Kasr-i-Shirin proved successful. At the close of 1903 two gushers were in active operation, oil having been reached at depths varying from 200 to 300 feet.

The fact that productive oil strata can be easily tapped at that point having been settled, attention has been directed during the past year to the question of the pipe line and to the possibilities of reaching the oil strata nearer the sea. It has been decided to begin boring operations in the territory not far from Ahwaz, on the Karum River, whither light craft easily mount from the sea port of Mohammerah. Should the drilling in these lowlands during the present season be followed by successful results, the problem of the oil industry in that section of Persia is satisfactorily solved. Difficulties unforseen at the time of the survey throw doubt upon the easy construction and maintenance of the projected pipe line through Luristan. The natural route for the pipe line from Kasr-i-Shirin is down the easy incline to Bagdad, distant in a straight line 110 miles to the southwest.

The difficulties inherent in dealing with the administration of a second Oriental country have deterred the owner of the concession from seeking an outlet through Turkish territory. Much delay and annoyance were, in fact, experienced in effecting the transit through Turkey via Basrah, Bagad, and Khanikin of the machinery requisite for the pioneer borings at Kasr-i-Shirin. It has been likewise felt desirable to plan for a pipe system which would serve the supposed oil-bearing regions between Kasr-i-Shirin and Ahwaz.

The main facts in evidence at this time are two, namely: First, oil, flowing abundantly, has been reached by drilling to a depth of not over 300 feet at an elevation of 1,625 feet above the sea and at a distance of 360 miles from tide water; second English capital is actively engaged in prospecting for similar wells nearer to the seacoast, but has completed all the preliminaries for the construction of a pipe line to the more distant flowing wells, if necessary.

GERMAN LABOR LAWS.

Consul Liefeld, writing from Freiburg, Germany, says that as a result of a recent strike in Freiburg among the stone masons a new tariff of wages and pay was passed at the session of the trade-tribunal on June 21, to take immediate effect. A summary of the regulations follows:

Masons shall be paid by the hour, and the hours of labor shall be arranged to suit the season.

Overwork, night work, Sunday and holiday work shall take place only in urgent cases. The first two hours after the close of the ten-hour work day, shall be considered extra work.

The removal of building material, stone, etc., from wagons arriving at the building place before the close of the day shall not be considered as overwork.

Wages shall be paid in sealed envelopes. Payment is to be made as far as possible at the work places and either weekly or every two weeks.

In case of new buildings or large alterations the employer shall erect building sheds and closets.

Intoxicated workmen are forbidden to enter the building place. Except during the recesses the use of alcoholic drinks during the time of labor is prohibited.

The relation between employer and employee can be brought to a close by either party without previous notice, but only at the close of a full workday.

Regulations, fines, etc., because of interest in any movement for increased pay or on account of membership in any labor organization, shall not be made.

For the purpose of mutual understanding and quick adjustment of any difficulties that may arise, the employers, as well as the body of employees, shall each elect a committee of three persons still active in the mason's trade, which two committees, though distinct, can nevertheless consider matters together.

All acts of the committees require the further vote of the two general bodies. If the conclusions of the committees can not procure the desired harmony then the trade tribunal shall be asked by both parties to arrange matters. Up to this point lockouts and strikes are not to take place.

REGULATIONS AS TO WAGES.

The pay for first-class able masons shall be for the work hour till August 1, 10.7 cents; from August 1 till December 31, 10.9 cents; in the year 1906, 11.4 cents; in the year 1907, 11.9 cents.

For night and for Sunday and holiday work one and one-half times the ordinary day-hour pay shall be made. For overwork an additional 3.57 cents per hour shall be made.

This tariff of wages is to be valid until April 1, 1908.

NEW SMOKELESS POWDER.

RESULTS OF EXPERIMENTS MADE IN ENGLAND.

The London Times of June 28 contains a report of experiments made at Witton, near Birmingham, of a new smokeless powder named "axite."

Pending the completion of the patents the ingredients of axite were not made known, but it is said to contain nitroglycerin and nitrocellulose in proportions similar to those in M. D. cordite, with other materials added. In appearance it resembles cordite, but it is prepared in the form not of cords, but of flat ribbons, which, when intended for use in large guns, are made with a raised rib along each edge, thus presenting the same section as a double-headed railway rail. The advantages claimed for axite by its inventors are that it does not corrode the barrel in the way cordite does; that with equal pressure it gives greatly increased velocity; that the effect of temperature on the pressure and velocity is only half that with cordite; that the maximum flame temperature of axite is 13½ per cent less than that of cordite, and that the total heat of decomposition is 18 per cent less, the erosive effect being therefore considerably less; that the residue deposit in the barrel after firing axite cartridges reduces the friction between the bullet and the barrel, and that therefore it becomes practicable to use axite cartridges giving higher velocities than can be employed with

cordite, owing to the latter nicking the barrel through excessive friction; and that accuracy is generally increased.

To illustrate the properties of the powder a series of experiments were carried out with military and sporting guns. To prove the absence of risk of damage to the barrel by use of axite, it was shown that a rifle from which ten rounds had been fired twenty hours previously, and which had been laid aside untouched, remained uninjured. The next experiments were designed to demonstrate the advantages attainable by the use of axite in combination with a more modern breech action than that of the service rifle. A number of 0.375–0.303 axite cartridges with 200-grain bullets fired from a rifle with Mauser action gave a mean velocity of 2,726 foot-seconds, with a pressure of 20.95 tons, and when a 215-grain bullet was used the velocity was 2,498 foot-seconds and the pressure 19.24 tons.

Similar experiments with a service 0.303 rifle gave with axite a velocity of 2,179 foot-seconds and a pressure of 15.76 tons, and with cordite 2,010 foot-seconds and 15.67 tons; with the axite, however, a larger charge was required, about 34½ grains against 31½ of cordite.

Samples of axite and of cordite were next heated to 110° for an hour and tested for pressure; the former gave an increase of 6.1 per cent and the latter of 9.8 per cent.

The next experiments had to do with trajectories over a range of 500 yards. While the mean height at 280 yards above the line of sight was with five 0.303 service cordite cartridges 41.58 inches, it was with 0.303 service axite 35.4 inches, with 0.375–0.303 axite and 215 grain bullets 26.94 inches, and with 1.375–0.303 axite and 200-grain bullets 22.37. A temperature of explosion test yielded the result that after ten consecutive rounds at ten-second intervals the temperature of the barrel rose to 71° with axite and to 89° with cordite. The lubricating action of axite was illustrated by firing three cordite cartridges from a 0.303 rifle, followed by one axite cartridge and then by another cordite cartridge; the increased average velocity of the last cordite cartridge as compared with the first three was measured as 97 foot-seconds.

The purpose of the last series of experiments was to show that a sportsman equipped with one rifle weighing 8¾ pounds and a sufficient variety of axite cartridges, including solid and capped bullets, could do all that previously could have been done with a whole armory of weapons. Speaking at a luncheon, Mr. Arthur Chamberlain enumerated ten qualities desirable in a military explosive, and maintained that axite, compared with cordite Mark 1, cordite M. D., and nitrocellulose powders, surpassed them all in the aggregate, though each of those powders might be ahead of it in respect of one or two of the required desiderata. It may be added that the flame of axite, which is violet in color, is said to be less noticeable than that of cordite at night. As to cost, it is thought that axite manufactured on a large scale would be more expensive than cordite Mark 1, but not very different from cordite M. D., which, however, can not be loaded commercially into rifle cartridges.

INDUSTRIAL CONDITIONS IN ENGLAND.

Consul Halstead reports Mr. Arthur Chamberlain, a leading manufacturer of Birmingham, England, claiming that 10 per cent dividends were awarded the shareholders in Kynochs Limited, a company engaged in the manufacture of cartridges, explosives, ammunition, etc., during the last ten years. He predicts 10 per cent dividends for the next ten years. While he calls attention to an increase in the individual earnings of labor from $4.74 to $5.40, he notes a falling off in the wages percentage, grouped as a whole, from 28.58 per cent of total sales to 15.50 per cent. Automatic machinery is responsible for these changes. Mr. Chamberlain exhibited a cartridge that had gone through fifty-five processes of manufacture at the cost, in wages, of one-fifth of a cent.

This, he thought, precluded the possibility of Great Britain suffering from foreign cheap labor. He hoped to see wages advance full 14 per cent in the next seven years. If things went on in the future as in the immediate past, they would.

An act of Parliament compelling companies to publish in their prospectuses all considerations in the promotion of new companies, the payments by directors for stock, contracts, etc., was referred to favorably. The need of greater definiteness in the law was referred to, as were other points pertinent to the discussion and of interest to stockholders.

In concluding his report, Consul Halstead points out the difficulties connected with the efforts of Americans seeking to enter factories in England, and compares them with the easy access to all kinds of manufacturing concerns in this country. Visitors, he says, in places near Birmingham, are admitted to factories only by vote of the boards of directors. He wonders whether it is wise on the part of our people to permit foreigners to enter and examine our methods as often and as easily as is the rule.

GOLD MINING IN AUSTRALASIA.

DEVELOPMENT AND PRESENT CONDITION OF THE INDUSTRY.

Vice-Consul-General John Merrill, of Melbourne, Australia, furnishes a comprehensive description of the gold mines in Australasia and the progress made in their development since the industry was established in that country. Its perusal will repay those who are interested in this subject. Mr. Merrill writes:

The mineral resources of Australasia are incomparable. In its earliest days a large portion of the country was taken up by pastoralists who devoted much of their time to sheep raising and the production of wool. About 1850 many, finding their prospects gloomy, gave up their land in order to try their luck in the gold fields of California. Some of these returned rich, but many others were unsuccessful. Their experience, however, was turned to good account later on in the opening up of the gold fields of Australia, where the conditions are similar to those of California. The bush fires in 1851, which devastated the country for hundreds of miles and left thousands homeless,

were another incentive to the gold diggers, and it was about this time that the first notable discovery was made in quartz rock at Clunes, Victoria, and afterwards at Buninyong and Ballarat. From that date all classes of the community were seized with the gold fever and made a general rush to the fields, where they were assisted in the search by numbers of immigrants who poured in from almost every quarter of the globe.

VICTORIA.

In the State of Victoria, at a place near the city of Ballarat, the production in the early days was marvelous; from a tubful of dirt there has been extracted gold to the value of thousands of pounds. The nuggets found were almost fabulous, and one alone, the Welcome nugget, which was found in 1858, was sold for over £10,000 ($48,665). Licenses to dig were issued for a nominal sum, and by this means men were enabled, with small outlay, to make considerable fortunes. Most of the attention was given to alluvial mining. At that period the methods were very crude; in most cases the stone was valued for the gold visible to the naked eye, and crushing was quite unknown. Later on, however, some enterprising men took to crushing the ore and separating the gold by washing.

The fields mentioned are in the State of Victoria, but the mines in the Bendigo district are at present the largest producers in Victoria, with Ballarat second. Some idea of the richness of the gold fields can be gleaned when it is stated that about half of the product of Australia has been from the State of Victoria alone.

A great deal of deep lead mining is being carried on in the State, one of the principal mines being at Moolort Plains, midway between Bendigo and Ballarat. The company working it has already expended several hundred thousand pounds, and is now, it is anticipated, about to reap its reward. The extent of the property is several thousand acres. Many of the deep lead mines are paying dividends, but at present only a small part of the State is worked in this way. The lodes in the mines are the ancient water courses or underground rivers, and in many cases are deep. The depth is obtained by boring, and when it is ascertained a shaft is commenced. If there is much water in the drifts, large pumping plants are necessary, and the shafts vary according to the requirements. The methods of tunneling and the routes which the tunnels will take must be known, so that they will not interfere with adjacent mine owners or any privileges of others. In many of the surface mines dredging is carried on extensively and with a great measure of success.

The New Chum Railway, Bendigo, Victoria, is the deepest gold mine in the world. The lowest workings are now down to 4,150 feet, and there are many others in the same district over 2,000 feet deep. The mines in this part of the country are of the saddleback formation and will live down to an unlimited depth and carry payable gold.

SOUTH AUSTRALIA.

In 1852 gold was first found in South Australia, but the production has not been so great as in the other States. There is, no doubt, a considerable amount of gold in existence, but want of capital has hindered production. Many of the fields are worked by Chinese, whose knowl-

edge is slight and whose resources are limited. There are large copper mines in this State; the Kapunda mine is said to have yielded at one time 2,000 tons annually.

NEW SOUTH WALES.

In New South Wales the mines are not so large nor so productive as those of some of the other States. The largest production was in the early days of working, but quartz mining is carried on now to a considerable extent. Broken Hill, one of the largest silver mines in the world, is also in this State. Dividends amounting to over £7,000,000 ($34,065,500) have been paid from this mine. There have been several large nuggets of gold found in New South Wales, one alone weighing 106 pounds.

QUEENSLAND.

In Queensland there are many large mines, including the Mount Morgan, which has paid in dividends over £7,000,000 ($34,065,500). Charters Towers and Gympie are also large paying fields. The scarcity of water where these fields are located has been one of the drawbacks.

WESTERN AUSTRALIA.

Western Australia was for a long time considered one of the most backward of the States, until the first important discovery of gold was made in the Kimberley district about 1882; but it was not until 1892 that its prosperity fully started at the discovery of the Coolgardie gold field, to which there was a rush from the different States, and fresh discoveries were made. The fields have increased wonderfully, among the principal being Kalgoorlie, Mount Margaret district, which covers over 40,000 square miles; Pilbarra, over 32,000 square miles; Murchison, 20,000 square miles, and many others of similar size. It is estimated, however, that the principal gold fields in this State cover about 250,000 square miles. The mining towns in western Australia are supplied by water through pipes under government control by what is called the Gold Fields' Water Supply Scheme. It cost the State some millions sterling, and the length of the pipes from point to point is over 300 miles. Many of the mines are supplied from this source and are charged 5 shillings ($1.21) for every thousand gallons of water used, but even at this price the advantages are great where the inland rains are few and far between, and where the water obtainable is often brackish and unfit for working fine machinery.

The largest amounts of gold are obtained in the eastern Coolgardie fields of West Australia. Some idea of the magnitude of the mines can be estimated when it is stated that there is over £4,500,000 ($21,899,250) worth of machinery in use in the fields. In July, 1898, a nugget was found near Kanowna which weighed over 1,600 ounces, but for various reasons there has been a certain amount of secrecy maintained with regard to many of the other nuggets discovered.

TASMANIA.

There are several large gold fields in Tasmania, but most of the attention at present is being given to tin and other metals. The largest

gold mine at present is in Beaconsfield; up to date the dividends paid to shareholders from this mine have amounted to over £750,000 ($3,649,750). There is an enormous area of various mineral bearing country in the island, and a plentiful supply of water, but the country is inaccessible in many places, and capital is scarce for the working of the mines, although the regulations are not so stringent as in many other States.

NEW ZEALAND.

In New Zealand the largest supply of gold is said to be obtained in the Auckland district, where there are large mines in the Waihi district. The dividends paid from these mines have amounted to over £1,000,000 ($4,866,500). In the middle island, or the South Island, as it is called, dredging is carried on extensively. The silt from the dredging operations on the rivers is carried down to their mouths along the seacoast, where the waves, by their action on the shifting sand or silt, produce a fine deposit of gold. At Reefton, New Zealand, there has been successful quartz mining for some time, in which a great many Chinese are employed. Quartz mining is not carried on to the same extent or depth as in Victoria and some of the other States.

OUTPUT AND LEASES OF AUSTRALASIAN MINES.

Since gold was first found in Australia the amount which has been produced is said to exceed in value over £450,000,000 ($2,189,925,000). In the early days of gold mining the leases were registered in the warden's office on the fields, but now they have in most States to be finally registered at the principal town or seat of government, where there is a mining department. Those who desire to become leaseholders must peg off their ground in the first instance, and after a certain date application must be made to have the mine registered, when certain fees have to be paid for survey and rent in advance. Before the mine is finally registered a notice is posted, so that if anyone has objections he can lodge them. After the specified time the application comes before the warden, who can grant or refuse the registration. If granted, the registration is published in the Government Gazette and posted to every mining registrar throughout the State.

The labor conditions in Australia are stringent for gold mining, as one man must be employed for every 5 acres, but for other minerals it is more liberal. These conditions must be complied with or the lease is forfeited. In some States exemption is retrospective, in accordance with the work done and the amount of capital which has been expended. The mines in Australia are all leasehold and subject to conditions fixed by the governments of the different States.

GOVERNMENT AID TO MINERS.

In the State of West Australia the government gives genuine assistance to small prospectors and small mine owners who are without means and have good prospects. They can have their ore crushed cheaply, and assistance is given in supplying them with water from the Gold Fields Supply Scheme. The principal way, however, in which the State helps the miners is by crushing their ore in the State batteries, as the private facilities on the fields are not always adequate

for the ore obtained and at other times are not available. By this means many of the smaller mines have been kept going and those that were closed have, in many cases, been reopened. Crushing is done only for small mines. Electricity is nowhere used to more advantage than on the fields, where the larger mines are lit by it and have their own motors. There is always a market for the gold at the government mint in every State. Most of the mine proprietors send their gold there and the value is allowed.

Schools of mines are now established in all the principal towns of the States, where instruction is given in all branches connected with mining operations. These schools are fully equipped with laboratories for assaying and mineralogy, also furnace rooms with muffle furnaces and all the other necessary appliances. A library is generally attached where the latest works are obtainable connected with mining geology and gold production, treatment, etc.

OPPORTUNITIES IN THE AUSTRALIAN GOLD FIELDS.

The largest gold fields in this colony were discovered by energetic prospectors, who went beyond the paths of civilization, but the fields as yet are only beginning to be opened up. The industry of course requires skill, knowledge, and the employment of scientific managers, as upon these depend largely the output of the mine. There are two kinds of mining. One is to work the mine profitably and with success to those who give their money for the working expenses and the general maintenance of the mine; the other is for the bulls and bears who work for market purposes.

Of all the Australian States the richest in mineral wealth is Victoria, where the whole surface may be said to be auriferous, while at the same time there are agricultural and pastoral resources without equal. The climate is exceptionally fine and suitable for almost any constitution, and if American capital, with the undoubted energy of the American people, were found here, the country would go ahead in the mining industry and a larger market would be opened up for American mining machinery. The government geologist of this State, who was for many years government geologist in South America, informs me that of all countries he has seen this one has the best lodes and the greatest future ahead.

NOTES.

Steel Floating Dock in Japan.—There was launched on May 4 at Nagasaki, by the Mitsu Bishi Dockyard and Engine Works, for use at their repairing yard which they are establishing at Kobé, a steel floating dock of the following dimensions: Length, 387 feet 6½ inches; length over all, 412 feet 6½ inches; breadth, 85 feet ½ inch; depth, 41 feet 7½ inches; lifting power, 7,000 tons. This dock will accommodate the largest of the merchant vessels owned in Japan. It is expected to be completed this month.—*Consul Harris, Nagasaki, Japan.*

Endangered Rubber Production.—The usual period of low water (vasante) on the upper Amazons has set in this year much earlier than usual. In consequence a fleet of 21 steamers and a very large number of sailing and rowing craft of considerable burden, all heavily laden with the annual supplies for the rubber camps, are stopped at the mouth of the Purus River, many of the boats being high and dry on the banks. Some of the supplies are more or less perishable and all are sorely needed; failure to get them to the camps will mean heavily diminished returns of rubber next season. At the same time the unusual and very heavy rains in the lower river region have severely affected the production of "islands rubber," and very little may be expected for the next six weeks or more. The trees begin to blossom in June and during this time the production of latex diminishes, so that very little islands rubber is to be expected in this market for the next four months or more. There is little or no rubber on hand here.—*Consul Aymé, Para, Brazil.*

American Sewing Machines in China.—There are a large number of American-made sewing machines in use in this consular district, but for some unknown reason none appear in the list of goods passing through the imperial maritime customs. Most of the sewing appliances used are small hand machines, the cost of the foot-power kind precluding them from general use. Practically all of the machines owned here have been purchased of agents from Hongkong, where an American company has local representation. It is probable that if the sale of the cheap but high-grade machines now on the market in the United States was pushed out here there would be a large demand, especially if the American method of selling on installments were followed. The Chinese have urgent need of such machines, and the only question as to their introduction everywhere in the Empire is that of cost.—*Consul Anderson, Amoy, China.*

Railway Rolling Stock Contracts.—The Egyptian Government lately awarded contracts for 63 locomotives (15 to be built by Henschel & Co., of Cassel, Germany; 32 by the North British Loco-

motive Company, of Glasgow, Scotland, and 16 by two factories in France and Belgium); 105 passenger cars to be built by the Metropolitan Railway Car Company, of Birmingham, England; 100 30-ton freight cars by the Leeds Forge Company, England, and 190 10-ton freight and cattle cars by three Belgian car works. As American locomotive and car factories can undoubtedly successfully compete with European works, it is strange that none of these contracts went to the United States.—*Consul-General Guenther, Frankfort, Germany.*

Poor Crop Prospects in China.—Continued wet, cold, and generally unseasonable weather over southeastern China has resulted in most discouraging conditions and prospects for the Chinese farmers. Unless there is an immediate change for the better, one of the two crops of rice harvested each year will be a failure. In many places it will be impossible to transplant the rice plants in Chinese fashion in time to secure the usual first crop, even with an immediate change in the weather. Vegetable fields can not be worked, and ungathered vegetables grown during the winter are rotting. Unquestionably there will be an immense amount of loss among the people, and the suffering later on will be great. The bad crops, of course, will affect China's purchasing power and credit. The area affected by present unfavorable conditions is very large and includes some of the best country in the southern portion of the Empire.—*Consul Anderson, Amoy, China.*

Automobile Trade.—Under date of May 5, 1905, Consul-General Richard Guenther, Frankfort, Germany, transmits the following statistics of the automobiles imported into and exported from the specified countries in 1904:

Automobile trade of leading producing countries in 1904.

Country.	Imports.	Exports.
France	$727,000	$14,260,400
Germany	1,843,310	3,134,222
Great Britain	10,402,200	2,050,000
United States	[a]1,446,000	1,997,000
Belgium	[a]381,800	452,800

[a] Includes also parts of automobiles.

The sum given for the exports from Great Britain includes also the value of the foreign-made automobiles imported and reshipped.

American Mails for Great Britain.—Great satisfaction is expressed by the British public with the improvement in dealing with the American mails. Under the new system of sorting the mails en route they are on arrival at port sent direct to their destination, instead of having to go through several distributing centers as heretofore. Mails will be sent direct to no less than 98 towns in the British Isles, which will mean a saving in many instances of sixteen to twenty-four hours. It

is estimated that the least time saved will be eight hours. The American liner *St. Louis*, which arrived at Plymouth May 27, was the first to carry the marine post.—*Vice and Deputy Consul Stephens, Plymouth, England.*

Successful German Smoke Consumer.—A German firm has recently patented a system for consuming smoke and preventing the wasting of coal which, it is claimed, is proving very successful. The system has been tested at the experimental station of the Bavarian "Revisions-Verein" in Munich, where it was found that 72 per cent of the combustible value of soft coal from the Saar district can be utilized when this smoke consumer is used. The conditions were unusually favorable at this station, but it is confidently claimed that almost anywhere the saving of coal will amount to from 12 to 25 per cent. The director of a rope and cable factory at Frankfort, Germany, where the system has been in use for some time, reports a minimal development of smoke only when fires are started or replenished; at other times no smoke is visible and the saving of coal amounts to more than 20 per cent. The owners of the patent allow to interested factories a four-weeks' trial, guaranteeing a saving of at least 10 per cent in coal. At the end of the four weeks a contract may be made for a period of five years, the annual charge for the use of the smoke consumer and for keeping it in order being $125 to $175, according to construction and size.—*Consular Clerk Murphy, St. Catharines, Ontario.*

Wages of Belgian Lace Makers.—Belgian female workers on handmade lace earn but from 25 to 30 cents per day of 12 to 15 hours' work. In eastern Flanders the wages are still lower, ranging from 16 to 20 cents per day. Girls from 6 to 9 years of age are instructed in lace making in schools superintended by nuns. A few years ago the earnings of lace makers in East Flanders averaged only from 7 to 8 cents per day, as the lace was then sold direct to dealers, but a philanthropic lady, Miss Minne Dansaert, of Haeltert, took hold of the matter and by selling the lace direct to customers, excluding agents and dealers, secured the full proceeds of the sales to the producers. This lady has also established working schools and greatly improved the industries of the district.—*Consul-General Guenther, Frankfort, Germany.*

Duties on Paper in Costa Rica.—Under date of May 30, 1905, United States Consul John C. Caldwell, San José, Costa Rica, reports that by a recent decree the duties on the following kinds of paper imported into Costa Rica have been fixed at the rates given per kilogram (2.2046 pounds): Commercial paper, as memorandums, checks, accounts, 12.3 cents; colored printing paper, 4 cents; white printing paper, free.

Trade and Technical Schools in Prussia.—The official organ of the ministry of commerce and trade publishes the following statistics of the trade and technical schools in Prussia at the beginning of 1905: Giving instruction in machine building and other productions of the

metal-working industries, 19 schools, attended by 3,055 scholars; architecture and the building trades, 22 schools, attended by 5,039 students; art trades and various high-class crafts, 26 schools and academies, attended by 3,061 students. Five of the last-named schools were State institutions and the other 21 received subventions from the Government. These schools had evening and Sunday classes which were attended by 12,252 students, in addition to the number of full-course day scholars given. The textile trade schools instructed 1,708 males and females and 237 in the weaving workrooms. There were 1,290 technical and 290 commercial finishing schools, with 201,716 and 31,670 scholars, respectively, and 428 technical schools, organized and supported by industrial associations or crafts-guilds, having 28,043 scholars. The State grants subventions to 1,237 of the finishing schools.—*Consul-General Guenther, Frankfort, Germany.*

Improved Sewing Machine.—It is announced that a Lancashire mechanic, Dennis Flanagan, has invented what has long been needed but unsuccessfully attempted—a machine which will sew direct from two reels of thread, thus obviating the winding of spools and threading of shuttles. Experts are quoted to the effect that if the invention is put on the market in a thorough manner it will revolutionize the sewing-machine trade of the world. It is said that Mr. Flanagan has been experimenting since 1889, and that owing to the machine sewing direct from two reels of thread there is an absence of complicated mechanism, in consequence of which there is little chance of its getting out of order. A remarkable feature is the very small number of parts required in its construction, and as the cost of production will, comparatively speaking, be small, it is expected that the contrivance will be put on the market at a price far below that charged for most sewing machines.—*Consul Mahin, Nottingham, England.*

Drainage Piping for Callao.—Under date of June 6, 1905, the American minister at Lima, Peru, Irving B. Dudley, transmits copies printed in English of proposals for the supply of earthenware and cast-iron drainage piping for the city of Callao, containing form of tender, conditions, and bill of quantities. The copies of proposals were sent to the American legation by the water inspector with a view to their being brought to the attention of American contractors. Proposals must be sent sealed on or before October 5, 1905, to the secretary of the municipality of Callao. The printed proposals, containing all necessary information for American contractors, are on file in the Bureau of Statistics, Department of Commerce and Labor, where they may be inspected by interested parties.

Opening in East Africa for American Cement.—At the last meeting of the Lourenço Marquez Chamber of Commerce, a local firm presented a letter from one of its London correspondents pointing out that the conference shipping lines, otherwise known as the "shipping trust," controlling practically all of the steam shipping between Eng-

lish and continental ports and South Africa, had recently doubled the former discrimination in the freight rate on cement in favor of Durban against Lourenço Marquez, the difference being now 5s. ($1.21) per ton. It was pointed out that the difference hitherto had only been 2s. 6d. (60 cents). This means that the freight charges on cement from England or the Continent are $1.21 per ton higher to this port than to Durban, and Durban is only 300 miles distant from this port. The chamber of commerce decided to communicate with local shipping agencies with a view to obtaining official confirmation on this important matter, and, if needed, to endeavor to divert the trade of its associates to the United States, where the shipping ring policy does not reign supreme.—*Consul Hollis, Lourenço Marquez, Portuguese East Africa.*

Canadian Crop Reports.—The weekly crop report, issued by the Canadian Pacific Railway, indicates that throughout the wheat belt traversed by the railway and branches, conditions continue as favorable as during May. Grain is growing with record rapidity. Saskatoon reports wheat 24 inches high, and a number of points in the West report 20 inches; the average is much less, a large number of agents reporting a growth of 9 to 10 inches. The Canadian Pacific Railway estimates the wheat yield of Canada for 1905 at 125,000,000 bushels.—*Consul-General Holloway, Halifax, Nova Scotia.*

New Light-Houses in Haiti.—Under date of June 22, 1905, the Secretary of State informs the Secretary of Commerce and Labor that according to advices from United States Minister Powell, at Port au Prince, the minister of public works has presented to the Haitian chambers a draft of a proposed law approving a contract giving to Messrs. Thimocles Lafontant, Hector John Joseph, and the minister of public works the right to erect light-houses at Jacmel, Aux Cayes, Jeremie, Miragoane, Petit Goave, St. Marc, Mole St. Nicholas, Cape Tiburon, and Port au Prince.

Warning to Ships Approaching Plymouth, England.—Under date of May 26, 1905, United States Vice and Deputy Consul John J. Stephens, Plymouth, England, reports official notification that when submarines are diving near the approaches to Plymouth they will be accompanied by a tender (usually a torpedo boat) flying a large red danger flag. Ships should give this tender a wide berth.

Tobacco Imports into Costa Rica.—By a decree issued on May 20, 1905, the importation of leaf tobacco into Costa Rica, which has heretofore been a Government monopoly, is made free to everyone. The rates of duty are fixed at 1.75 colons plus 1½ centavos wharfage and special tax, a total of 1.76½ colons (82 cents United States) per kilogram (2.2046 pounds). Iztepeque tobacco is excluded from this provision and remains a Government monopoly. The decree takes effect August 1, 1905.—*Consul Caldwell, San José, Costa Rica.*

Effect of our New Pilotage Law.—Notice is given that ninety days from June 1, 1905 (notice required of steamship companies before a mail contract can be abrogated), the Pacific coast steamers will no longer call at Victoria en route from San Francisco to Seattle. The steamers of the company have been forced by the new law to take a pilot when entering or leaving San Francisco, which they have not done heretofore. The steamers come under the regulations applying to foreign-going steamers because of their call at Victoria; steamers entering San Francisco from Seattle without calling at Victoria are not required, as coasters, to take pilots. The new law, which went into effect several weeks ago, causes an additional annual expense of $16,000 to the company. The Canadian government has been apprised of the company's proposition, but declines to give any subsidy.—*Consul Smith, Victoria, British Columbia.*

Novel Milk Cars.—An interesting departure has been made by the Great Northern Railroad Company of England in conveying milk, and the idea has been taken up in Ireland to the extent of urging the railroad companies to use similar apparatus. The milk cars are fitted with a special adjustable ventilating apparatus, and the oscillation which has on a number of occasions nearly churned milk into butter during a journey has almost disappeared. Even at rapid speed on sharp curves there is scarcely any oscillation. The vans are 45 feet long and run on two 4-wheeled bogies. The absorbing of oscillation in milk cars seems to be worthy of study on the part of American railways.—*Consul Moe, Dublin, Ireland.*

Flour Milling Machinery for Russia.—A large machinery house in Rostov-on-Don, Russia, asks to be placed in communication with manufacturers of flour-milling machinery, having received several inquiries from Russian mills asking for prices, etc. Catalogues and other information should be addressed to Joseph Spiero, 11 Broadway, New York, who will forward them to the firm in Russia. Mr. Spiero, speaking of business conditions in Russia, said that, contrary to general impression, there has been a growing demand in the past three months for machinery of all kinds in the large cities, and, as an instance, cites a shipment of 400 typewriting machines which he recently made to Warsaw.—*Consul Worman, Three Rivers, Quebec.*

Tack Machines for Canada.—Under date of June 12, 1905, United States Consul James H. Worman, Three Rivers, Quebec, reports that James Austan, Hamilton, Ontario, is about to establish a tack factory, and is desirous of purchasing a number of tack machines.

Musical Instruments in Japan.—The Dominion commercial agent at Yokohama, Japan, reports that there is a growing demand in Japan for pianos, which has been supplied from the United States, England, and Germany. He believes that there is a good opening for the Canadians to enter in the competition, and mentions as principal man-

ufacturers of musical instruments with whom correspondence in English may be carried on: Nishikawa & Sons, Hinodecho, Yokohoma; Japan Musical Instruments Manufacturing Company (Limited), Hamamatsu, Japan; Shinkichi Matsumoto, Tsukiji, Tokyo; Miwa Organ Manufacturing Company, Nagoya.—*Consul Worman, Three Rivers, Quebec.*

Maize and Beans for Venezuela.—Referring to report of January 5, 1905 (printed in Daily Consular Reports, No. 2178), on the exemption from duties of maize and beans imported into Venezuela, I now report that by a decree of the Provisional Government, dated May 22, 1905, the decree of exemption has been revoked. A local paper—Letras y Números—in announcing the action, pronounces it "very opportune, as, according to the reports coming from all parts of the Republic, the crop of minor grains promises to be very abundant, as is also announced in respect to coffee."—*Consul Peterson, Puerto Cabello, Venezuela.*

Canadian Steamship Subsidies.—Announcement is made that the Canadian-Australian line, now running steamships monthly between British Columbia and Australia, touching at Honolulu, will be discontinued unless an increased subsidy is granted before August. The Dominion of Canada has offered a subsidy of $50,000 per annum to keep the line, and if the Australian government will do as well the service will be retained; otherwise, the Union Steamship Company, owning the steamers, has announced, the trips will be discontinued at the expiration of three months from May.—*Consul Smith, Victoria, British Columbia.*

Maple Sugar in England.—The Dominion commercial agent at Manchester, England, states that he has succeeded in creating a market at that place for maple sugar, for which 18 cents per pound is realized. He reports that the commodity has quite a sale in London, and he is of the opinion that a good market could be made for it in all parts of England.—*Consul Worman, Three Rivers, Quebec.*

Electrotechnical Exhibition in Kiev, Russia.—Under date of May 13, 1905, United States Consul Thomas E. Heenan, Odessa, Russia, transmits the following: An electrotechnical exhibition will be held at Kiev in 1906, and the announcement is made that the ministry of finance will permit the importation of the latest appliances and inventions in the realm of electrotechnical science for purposes of exhibit under the following rules: (1) The exhibition committee must deposit security to the amount of customs duty according to the tariff, which will be returned when the goods are reexported, which must take place not later than three months after the closing of the exhibition; (2) the goods are to be exported by way of the same custom-houses through which they entered Russia. I have not been officially notified concerning this exhibition, but the notice in the Torgovo Promyshlennaia Gazeta, April 14 (27), 1905, states that it will take place at Easter, 1906.

Automobile Show in Milan.—An interesting show, largely made up of national exhibits of automobiles, cycles, etc., is taking place in Milan. There are three exhibits of American cars, and there are displays from Germany, France, and Austria. Cars manufactured at Milan, Turin, Florence, and Intra are finding ready sales not only in Italy, but abroad, and are bringing high prices. In connection with motor cars, it is interesting to note the number of companies which have been formed for the building of cars and wagons, etc., in Milan, Turin, and other places near here. Millions of dollars have been invested, especially in the two cities mentioned. One society has been formed with $500,000 capital for the building of bodies alone, as the custom is to import only the chassis of foreign makes; but most of the companies undertake the construction of entire cars.—*Consul Brush, Milan, Italy.*

Census of Beira, Mozambique.—The census of Beira, taken on March 31, 1904, has just been published in the Boletim Official. The total population of the town at that date was 3,499, a decrease of 414 since the preceding year. Other than the natives, the chief nationalities represented were: Portuguese, 362; English, 105; Greeks, 68; Germans, 24; British Indians, 128; Italians, 18; Afrikanders, 12; and 3 Americans—1 man and 2 women. Of the 105 English, 78 were men, 15 women, and 12 children. As to conjugal relations, 212 were married, 2,974 single, and 3 widowers. Of the females, 227 were unmarried, 79 married, and 4 widows. Of the total population, 2,519 could neither read nor write.—*Consul Hollis, Lourenço Marquez, Portuguese East Africa.*

Wood Pulp in Japan.—The Dominion commercial agent in Japan reports from Yokohama that the imports of wood pulp into that Empire have been steadily increasing in recent years, amounting in value to $102,795, $182,528, and $313,569 in the years 1901, 1902, and 1903, respectively. The countries from which the product is mostly imported are Germany, Great Britain, the United States, Sweden, Norway, and Canada. The Japanese duty on wood pulp is 17 cents per 133 pounds. The same agent sends the following list of Japanese paper mills using imported wood pulp: Fuji Paper Mill Company, Sanjukken-bori, Kyobashi-ku, Tokyo; Sanju Paper Mill Company, Honzaimoku-cho, Kyobashi-ku, Tokyo; Oji Paper Mill Company, Kita Teshima-gori, Tokyo; Nichome, Kobé; Abe Paper Mill Company, Kawakita, Nishiku, Oska Seishi Goshi Kaisa, Nishinoda Daikaicho, Kitaku, Osaka; Shimogo Paper Mill Company, Tamaicho Kitaku, Osaka.—*Consul Worman, Three Rivers, Quebec.*

Height of Buildings in Budapest.—In streets not more than 10 meters (32.8 feet) wide private buildings may not exceed three stories above the ground floor, say 20 meters (65.6 feet); in streets 15 or more meters wide (49.2 feet or more) four stories are allowed, with a height of about 25 meters (82 feet). The height of any public building or specially fitted private house may be increased 3 to 6 feet by a special permit from the city authorities. The particular reason for

placing the foregoing limits on the height of buildings is not given, but the ordinance fixing them is dated January 1, 1894, and copies can be purchased of Legrady Brothers in this city for 2 crowns (say 41 cents).—*Consul-General Chester, Budapest, Hungary.*

Inauguration of the Simplon Railroad.—Under date of May 24, 1905, United States Consul Harlan W. Brush, Milan, Italy, reports that the Federal Council at Berne has communicated to the Italian Government that the official inauguration of the Simplon Railroad will take place on October 10 next. The King of Italy and the President of the Federation will be present.

Shipment of Raw Cotton to Japan.—Ten thousand bales of cotton were taken to Japan by the steamship *Minnesota* on her last trip to the Orient. This fact gives indication of Japan's progress in the manufacture of cotton fabrics and justifies the prediction, so often heard, that Japan is likely to become the most active rival of the United States in competing for the cotton trade in the Orient.

Americans and Canadian Contracts.—Under date of June 20, 1905, United States Consul-General Holloway, Halifax, Nova Scotia, transmits the following:

The Walter M. Lowney Company has awarded the contract for the erection of a six-story factory and warehouse in Montreal to F. B. Gilbreth, New York City, at a cost of about $100,000.

Messrs. Foley Brothers, St. Paul, Minn., have been awarded the contract for extensions on the Canadian Pacific Railway in the western provinces, to cost about $3,000,000.

The Vulcan Iron Works Company, Toledo, Ohio, has shipped one of its "Little Giant" steam shovels to the Northern Mines Company, Altin, British Columbia, where it will be used in placer work.

The contract has been signed by R. H. Bradburn with the New York Theatrical Stock Exchange for the erection at Peterborough of a new $30,000 opera house with a seating capacity of 1,500.

Tenders will be received by the department of public works, Ottawa, for the construction of an extension to the Toronto Island breakwater.

S. P. Hodgson, of Swan Lake, Manitoba, has let the contract for a 100-barrel flour mill and 30,000-bushel elevator to the Willford Manufacturing Company, Minneapolis, Minn.

Transfer of British East African Protectorates.—Under date of May 22, 1905, United States Consul Mason Mitchell, Zanzibar, transmits a long article for the Morning Post, of London, relative to the transfer of East Africa, Ugande, and Somaliland from the foreign office to the colonial office on April 1, 1905, which the Post calls "A step on the upward way."

Investigating German Trusts.—For some years past the Federal Government has had a permanent commission engaged in investigating German industries, and the influence of the trusts and syndicates thereupon. The commission has accumulated a vast amount of information, but nothing has been published thus far concerning its views. Apparently it is undecided whether combines influence German industries and export trade beneficially or otherwise. It is said that an investigation of the tin plate and steel trusts will now be undertaken. Some German papers are expressing their impatience at the silence of the commission as regarding governmental action. Complaints come from many industries that the trusts and syndicates sell their products to foreign manufacturers at much lower prices than they compel German industries to pay, thus benefiting foreign competition and injuring German exports of manufactured articles where labor forms the principal item of cost.—*Consul-General Guenther, Frankfort, Germany.*

Government Ownership of Panama Mines.—Under date of June 7, 1905, United States Consul-General Lee, Panama City, transmits the following translation of a decree passed by the cabinet council of the Republic of Panama, in full session, on May 15, 1905:

The Republic of Panama retains the right to all mines, of any kind whatsoever, within its limits, even should the vein or drift, etc., lie below the surface of private property. The owner of such property has the right only to the surface, and the subsoil belongs to the nation. However, the owners of land overlying mines which are ceded or leased by the Government have a right to remuneration for the use of the surface of their land by the concessionaire or prospector, as provided by law.

Canadian Merchant Marine.—According to the annual report of the Dominion department of marine and fisheries recently published, the number of vessels recorded in the Dominion on December 31, 1904, including old and new vessels, sailing vessels, steamers, and barges, was 7,152, measuring 672,838 tons registered tonnage—an increase of 132 vessels and a decrease of 10,309 tons register compared with 1903. Assuming the average value to be $30 per ton, the value of the registered tonnage of Canada on December 31, 1904, would be $20,185,140. The number of new vessels built and registered in 1904 was 308, measuring 18,554 tons. Estimating the value of the new tonnage at $45 per ton, there would be a total value of $834,930 for new vessels. Of the total number of sailing ships and steamers, Nova Scotia has 2,066, Ontario 1,886, and Quebec 1,287. The number of steamers is 2,543, with a gross tonnage of 353,514 tons. Ontario has 1,288 of the steamers, or more than half.—*Consul-General Holloway, Halifax, Nova Scotia.*

Galway Granite Quarry and Marble Works.—A company has been formed to acquire and develop the Shantallow granite quarry and marble works at Galway. It is said that these quarries have an

inexhaustible supply of red granite of rich color and fine quality, capable of taking a brilliant polish and suitable for all inside and outside work. The quarries also yield large blocks for engineering works, stone for making sets, macadam, and concrete slabs, and are convenient to the railway and the Galway docks, with which it is proposed to connect them by means of a tramway, for which leave has been secured. The company will also acquire Miller's marble and granite works, which during many years have been successfully operated polishing Galway granites, a black marble, and the Connemara green marble. It is proposed to equip these works with modern machinery, and as the demand for ornamental polished work is far in advance of the supply at present the Galway works should do a very profitable business.—*Consul Moe, Dublin, Ireland.*

German Consular Service.—The German consular service consists of 126 professional consuls and 621 merchant consuls. The former are known as "consuls missi," i. e., consuls sent abroad for a special purpose. Merchant consuls are usually chosen from the mercantile class which carries on business at the place where the country desires to be represented by a merchant consul. The merchant consuls receive no salary, nor have they the full privileges or wide functions of a consul missus. As the private business of a merchant consul induces him to accept the position, he is not likely to give it his sole care and full services irrespective of his own interests. The German Government has, therefore, within late years changed some of its merchant consulates to professional ones, as the character of the latter is better adapted to advance German interests, especially its export trade.—*Consul-General Guenther, Frankfort, Germany.*

Windsor and Detroit Double Railway Tunnel.—The building of the Michigan Central Railway double tunnel under the Detroit River, to cost upward of $10,000,000, will provide an immense amount of work for a foundry plant, and it is likely that a plant costing $500,000 will be a profitable investment. As the tunnel is to be constructed from the Windsor end direct to the Detroit terminal before the surface is disturbed on the Detroit side, it is quite possible that the foundry may be located on the Canada side of the river and built of Canadian material to avoid the duties which would have to be paid on the material if imported from the United States.—*Consul-General Holloway, Halifax, Nova Scotia.*

Freight Rates from the United States and Europe to Ecuador.—Official announcement is made that freight rates between New York and Panama are to be materially reduced on July 1. This means a large increase in imports into Ecuador from the United States. I was informed very recently by a prominent merchant here that he would like to deal in New York, but that the freights from that city on some of his purchases were fivefold greater when received at Guayaquil than like freight from Hamburg, which was a practical prohibition on American trade.—*Minister Sampson, Quito, Ecuador.*

Government Telephone in Canada.—The board of commissioners of the Temiskaming and Northern Ontario Railway will establish a government-owned telephone system from North Bay to New Liskeard, a distance of 113 miles, and as the railway is extended northward the telephone system will also be extended its full length. The line will likely be built this summer.—*Consul Worman, Three Rivers, Quebec.*

Lost Ships.—According to the statistics of the bureau Veritas of Hamburg, 113 ships, of which 77 were sailing vessels and 36 steamers with 26,904 and 37,336 registered tons, respectively, were lost during the heavy storms of April, 1905. In addition to these, 376 ships suffered damages.—*Consul-General Guenther, Frankfort, Germany.*

Poisonous Transferable Pictures.—The royal ministry of Bavaria publishes a warning against the use of colors containing lead in the manufacture of transferable pictures. Attention is called by the official notice to the German law of July 5, 1887, which forbids the use of colors that are injurious to health. Children attach these transferable pictures in scrapbooks, and girls and women use them for ornamenting glass jars, bottles, cigar boxes, fans, picture frames, paper cases, boxes, and many other small receptacles.—*Consul-General Guenther, Frankfort, Germany.*

Duty on Casein in France.—Under date of June 26 Consul-General Skinner writes from Marseille, France, that a promulgation was made on June 24 of a law fixing the duty in France upon casein, either pure or in combination with alkalis, in solid state or state of dissolution, at 20 francs ($3.86) per 100 kilograms (220 pounds) under the minimum tariff, and 30 francs ($5.79) per 100 kilograms (220 pounds) under the maximum tariff. Imports from America are subject to the maximum rate.

Canadian Subsidized Immigration Agents.—During the past year 76 agents in the United States received commissions of $3 for each man, $2 for each woman, and $1 for each child induced to go as agricultural settlers in western Canada. In Great Britain the commission for immigrants to Canada is $1.75 for each adult agriculturist or domestic servant, and half as much for each child of 12 years or under. This money is paid to the booking agents of the steamship companies. A commission of $2 per head is paid for children sent to this country by philanthropic societies and $1 per head is paid to the North Atlantic Trading Company of Amsterdam for all agricultural immigrants from certain countries of Europe. The amounts paid during the last fiscal year were as follows: On immigrants from the United States, $14,428; to steamship agents, subagents, and immigration societies on British immigrants, $43,220; and on Icelanders, $2,104; bonuses on domestic servants, $1,008; on immigrants from Great Britain $2 each, $246; to societies for children from Great Britain, $2,608; bonuses on immigrants from the continent of Europe, $35,316; total, $98,930.—*Consul-General Holloway, Halifax, Nova Scotia.*

Bribing and Tipping in Germany.—At the recent convention in Hamburg of the Coal Dealers' Association of Germany a number of delegates spoke on the practice of tipping and bribing. They complained that stokers and others having to do with coal used in manufacturing works and large establishments of any kind must be given bribe money, or have their influence used against the coal dealers to prevent the securing of new orders. The delegates urged the necessity of taking measures to abolish the nefarious practice. Americans traveling in Europe find the tipping abuse very annoying. The tipping evil has undoubtedly led to the bribery method which now has become so vexatious to business people.—*Consul-General Guenther, Frankfort, Germany.*

Women in Austrian Bottle-Cap Factories.—Women are employed to a considerable extent in the manufacture of bottle caps in this consular district, nearly all of the lighter work, such as stamping, polishing, varnishing, and perforating, being done by them. There are about equal numbers of men and women workers. The Austrian law prohibits the employment of children under the age of 14, and requires a school certificate to be presented by applicants of this age who seek employment. No children are employed in this consular district in the manufacture of bottle caps, the youngest girls taken into the factories being 17 years of age. The hours of work are ten per day, and the women employees earn from 12 to 18 crowns ($2.44 to $3.65) per week, according to their expertness, at piecework, so much per 1,000 caps.—*Consul-General Rublee, Vienna, Austria.*

Agricultural Implements in Indo-China.—Senator Jules Meline, of France, a recognized authority in that country on agricultural and commercial matters, is quoted as saying that the French colonies, especially in Indo-China, are wide-open markets for American agricultural implements and machinery, and that well-organized efforts in those directions should result in largely increasing our export trade.

British Columbia Wool.—The rearing of sheep for their wool may soon become an important industry in this province. The farmers of the New Westminster district have for a number of years raised a greater or less number of sheep for the butcher, but little wool has been exported. A change seems impending. Recently a gentleman from Scotland visited the agricultural districts and made a large contract for wool to be shipped from Chilliwack to Montreal, and thence by steamer to Glasgow, for use in the mills there. It is stated that the Glasgow agent made contracts with several farmers, and it is expected that the trade, of which this is the beginning, will increase from year to year.—*Consul Dudley, Vancouver, British Columbia.*

German Air-Pressure Tools and Compressors.—A marked advance has recently been made in this branch of manufacturing in Germany, and a systematic effort is being made to overcome Ameri-

can competition by applying recently invented improvements and, at the same time, reduce to a minimum the cost of production. A well-known firm at Frankfort, which claims that its products excel in quality, simplicity, durability, and cheapness, whose compressors are used by Krupp and similar firms, is now considering the advisability of establishing a branch factory in the United States if satisfactory arrangements can be made.—*Consular Clerk Murphy, St. Catharines, Ontario.*

Tramway System in Belfast.—Large extensions are being made at the corporation generating station in Belfast for the electrification of the tramway system. A plant for 3,000 kilowatts is being installed and about 40 miles of streets are in process of being equipped. The present capacity of the electrical works is 3,400 kilowatts. The connections to the mains are equivalent to 197,000 8-candlepower lamps, including 2,100 horsepower in motors. The supply is by the three-wire low-tension system, with 220 and 440 volts supply pressure. All the generators are arranged so that they can work as shunt machines on the lighting supply or as compound machines on the traction supply.—*Consul Knabenshue, Belfast, Ireland.*

Sea Water for Tuberculosis.—At the May session of the Paris Academy of Medicine a treatise, by Doctor Fournol, recommending hypodermic injections of sea water against tuberculosis, attracted much attention. Doctor Fournol, together with another physician, has prepared a sea-water serum, which possesses the property of increasing the blood pressure. He treated twenty-four patients at a Paris hospital with it. Some of these suffered from recent tuberculosis of the lungs, others for old tuberculosis of the bones. In all cases a distinct improvement was noticeable in the local as well as in the general condition. It is stated in German papers that the results appeared so important to the members of the academy that it was resolved to notify the tuberculosis commission, so as to make further experiments.—*Consul-General Guenther, Frankfort, Germany.*

Population of China.—The latest authoritative information obtainable, according to Consul Anderson, of Amoy, places the population of the Chinese Empire at 432,000,000. A detailed statement showing the population by provinces will be found in this number of Reports. How comparatively few of the Chinese people are brought in contact with the world outside the Flowery Kingdom is made apparent by the fact that the total population of the treaty ports is only 7,000,000.

Apple Crop of Nova Scotia.—The Halifax Chronicle says that the apple crop of the Annapolis Valley is not likely to be as large as was promised earlier in the season. In the review of the fruit-growing industry which the canning correspondent of the Chronicle gives, it is pointed out that the severe frost in June has reduced the

earlier estimate, and the damp and cold weather of the past month may somewhat injure the quality. The present outlook, however, is that there will be an average yield of apples, one exporter estimating the crop in the Annapolis Valley at 500,000 barrels, about the same as the yield of 1904.—*Consul-General Holloway, Halifax, Nova Scotia.*

American and English Bicycles in Belgium.—The English bicycle, that for some years controlled the Belgian market, has almost entirely disappeared therefrom. The cause has been the introduction of the American bicycle, which suits the taste of the Belgian wheelmen both in quality and price. The British dealers give as a reason for the demand for American bicycles in the Continental markets, to the almost exclusion of the British make, that the English wheel is too expensively built for the present demand. It is further asserted that the changes in the style of the wheel are so frequent that bicyclists refuse to pay high prices for a wheel that will be obsolete in about two years, and for which, after being used for that period, but little will be paid, say $10 to $20.—*Consul McNally, Liege, Belgium.*

Salvation Army Settlements in British Colonies.—Consul-General Holloway writes: The favorable report by H. Rider Haggard on Salvation Army settlements composed of desirable British immigrants of the agricultural class in the colonies, and a statement by Premier Tweedie a few months ago that his government would be glad to cooperate with the heads of the army to establish a settlement in New Brunswick, has directed attention anew to this question. A St. John paper directs attention to the great success of a settlement of Danes who went into the wilderness thirty-one years ago in what is now called New Denmark in Victoria County. To-day they have fine farms, cheese factories, good buildings, schools, churches, and all that conduces to comfort. New Denmark is an object lesson.

Bank in Tahiti.—Consul Doty, of Tahiti, writes that the Bank of Indo-China will establish a branch at Tahiti within a few months. It is understood here that a new coinage is being prepared in France for this colony, to replace Chilean, Peruvian, Italian, Papal, Mexican, and other coins in use. The bank will distribute the new coin at a fair rate of exchange. The "Caisse Agricole" has been of much assistance to the colony in aiding planters, but its capital is small and has not been available to any extent during the past two or three years. The Bank of Indo-China will meet a long-felt want.

Clocks in South America.—In the Rottwill district of the Kingdom of Württemberg are industries directed mainly to the manufacture of goods for export. Among these is the manufacture of clocks of every kind. The trade with South America in clocks has been large and profitable, but it now appears by reports from the Rottwill district that the exports to South American countries is suffering in conse-

quence of competition from the United States. The American clocks are superior to those of German make and can be sold at the same or lower prices. In consequence the latter are losing ground in South America.

Elevated Railroad in Greece.—Consul Horton, of Athens, Greece, reports that a company for the mining of the magnesite of Limni, in Evvia, has decided to build an elevated railroad, the rails of which are to be laid on a bed supported by iron pillars. The line will be 4 miles in length and will extend from the quarries to that point on the seashore to which the product of the quarries is brought down.

Colombian Export Duty on Lumber Revoked.—The Department of State has been advised by the American legation at Bogota that the Government of Colombia has revoked a recent decree of the governor of Bolivar imposing an export duty on lumber.

Aluminum Paper.—Aluminum paper is now manufactured in Germany and recommended as a substitute for tin foil. It is not the so-called leaf aluminum, but real paper coated with powdered aluminum, and is said to possess very favorable qualities for preserving articles of food, for which it is used as a covering. Chemical analysis has proven that aluminum paper contains but few foreign substances; occasionally it may contain up to 2 per cent of iron, but never any arsenic or other poisonous metals. Hence it appears that the powdered aluminum used for the manufacture of aluminum paper is relatively pure. The paper used is a sort of artificial parchment, obtained through the action of sulphuric acid upon ordinary paper. The sheets are spread out and covered upon one side with a thin coating of a solution of resin in alcohol or ether. Evaporation is precipitated through a current of air and the paper is then warmed until the rosin has again become soft. Then powdered aluminum is sprinkled upon it and the paper subjected to strong pressure to fasten the powder thereon. The metallic covering so obtained is neither affected by the air nor by fatty substances. Aluminum paper is much cheaper than tin foil and will, so it is thought here, become a strong competitor thereof.—*Consul-General Guenther, Frankfort, Germany.*

German Trade in Brazil.—A leading German trade journal, in a long editorial, calls upon German financiers to invest capital in Brazilian plantations, so as to develop cotton culture there. Germany, by becoming the principal customer for Brazilian cotton, would pay for it with goods "made in Germany," thus increasing the latter's export trade. The same journal points to the increased commercial intercourse between Brazil and the United States, and quotes the large investments of American capital, the establishment of industrial enterprises, etc., in Brazil by United States syndicates. It deplores the apathy of the German Government in not defending Germany's position in Brazil, which is seriously jeopardized by the "American danger."

French Enterprise in Argentina.—A French bank, with a capital of $25,000,000, is to be established in Argentina. French capitalists have of late shown great interest in that prosperous Republic. The French firm De Bruyn & Otamendi is constructing an extensive system of narrow-gauge railroads there. The new bank is styled "Banco-Franco-Argentino," and the Banque de Paris et Pays-Bas is one of its principal founders. This great financial institution is likely to promote French trade with Argentina.

Business in China.—Consul-General Guenther writes that the statement of the German Asiatic Bank at Shanghai concerning its last year's business operations shows a net profit of $576,647 United States currency. According to the bank's officers China's trade has not been unfavorably influenced by the Russian-Japanese war, the banking business having increased. The Shantung Railroad, for its entire length of 272 English miles, is now in operation.

Public Works at Iquitos, Peru.—The city of Iquitos, Peru, is showing commendable public spirit and enterprise. The following public works are projected in that city: A hospital building to cost $50,000, an electric plant for lighting, a wireless telegraph station to communicate with Puerto Bermudez, and railroad between Cerro de Pasco and the river Marannon.

New Undertaking in Uruguay.—The Government of Uruguay is considering proposals for a railway between Paysandu and Rivera, and the city of Asuncion, capital of Paraguay, is to have an electric plant for furnishing light.

Germany has concluded a postal money-order convention with Mexico.

Smelter at Chihuahua.—Governor Enrique Creel, of the State of Chihuahua, Mexico, has granted a concession, on behalf of the State government, to the American Smelting and Refining Company for the construction of a mammoth smelter at Chihuahua. The plant will cost $2,000,000, and will be completed in about a year. It will have a daily capacity of 2,000 tons of ore.

Mexican Products.—The German consul at the City of Mexico, in a report to his Government, estimates the value of domestic cattle in Mexico at $120,000,000. He speaks of the successful culture of ostriches and the large exportation of Mexican leaf tobacco to Germany, where it is made into cigars.

Agricultural Implements.—D. H. Ross, Canadian government commercial agent at Melbourne, Australia, states that owing to the great development in agriculture there is a heavy demand in Australia for agricultural implements.

Strikes in Belgium in 1904.—During the year 1904 there were in Belgium 87 strikes, affecting 27,307 workmen. Eighty-three of these strikes terminated in the year. In 82 of the strikes 131 workshops and 17,923 workmen were concerned. The three principal industries affected were the textile (31 strikes), coal mining (21), and the metallurgic industry (10). Thirty-eight strikes were caused by disputes about wages, 19 were on account of the labor-union question or were sympathetic, 15 were on account of the hours of labor, and the rest on account of the severity of the workshop regulations and the imposition of fines for their violation. Of the 83 strikes, 16 resulted in favor of the workmen, 56 in favor of the operators, 1 without any advantage to either side, and 10, by arbitration, with both sides claiming the advantage.—*Consul McNally, Liege, Belgium.*

Convict Labor in Germany.—The report of the chamber of commerce of Coburg says that at the convention of the Association of Basket Manufacturers of Germany, held in Coburg last year, propositions were made to regulate convict labor, which is much employed in making baskets and willow ware. The chamber was represented in the convention, but did not offer any definite proposals on the subject, confining itself to the declaration that, in principle, prison labor should in no wise be allowed to compete with free labor. As a considerable portion of German basket and willow ware goes to the United States, the matter alluded to may deserve some consideration, as it is not right that American labor should have to compete in our own market with goods made abroad by convicts.—*Consul-General Guenther, Frankfort, Germany.*

Agricultural Machines in Germany.—A firm manufacturing agricultural machines at Zweibruecken (Palatinate) reports the business to have been good in 1904 and that production has been increased, but that owing to strong competition the prices have been somewhat reduced. The factory employs 135 hands. This firm desires the German duties on imported agricultural machines, especially machines coming from the United States, to be advanced.—*Consul-General Guenther, Frankfort, Germany.*

Danish and Siberian Butter.—In accordance with a suggestion from the Department of State, the following revised and corrected form of a communication made by the Danish minister in connection with the report made by one of our consuls reporting the alleged use of Danish labels on Siberian butter is published. The original, of which this is a revision, appeared in Daily Consular Reports, No. 2251, May 6, 1905. The revised text is as follows:

"The King's Government long ago established a very effectual supervision over the butter trade carried on in Denmark, as well as over the manner in which butter imported from elsewhere is labeled in Denmark. The measures taken by the Government have rendered it almost impossible to commit frauds in the butter trade and especially so far as Siberian butter is concerned the supervision is materially

simplified by the fact that almost the entire trade in this butter is in the hands of a single firm, 'The Siberian Company.' The great intrinsic difference between Danish and Siberian butter, arising from the different systems of foddering, etc., in the two countries, also renders it extremely difficult to sell Siberian butter for Danish butter."

Board of Trade at San Juan, Porto Rico.—A correspondent of the New York Commercial, writing from San Juan, Porto Rico, states that the leading business men, bankers, and agriculturists of the island have formed a board of trade, the primary object of which is to promote the welfare of the island in every manner possible. It is said that special attention will be given to building up infant industries. A bureau of correspondence is to be organized, and the boards of trade in all the large cities of the United States are to be kept fully posted as to the requirements and the resources of the island. This board will undertake a work more general in character than that attempted by the chamber of commerce, which confines itself to relations between merchants and bankers.

No Canal Tolls in Canada.—Two years ago the Dominion government abolished all canal tolls for two years as an experiment. The officials found that it worked satisfactorily, and the council has ordered a continuance of the no-toll policy and the discharge of all the staff of collectors on June 30, 1905. They have also adapted a plan local to the canal here, using their motive power to take all boats through the canal.—*Commercial Agent Hamilton, Cornwall, Ontario.*

Fish Isinglass as a Wine Clarifier.—In a case coming up on appeal, the supreme court of the German Empire has decided that the use of fish isinglass dissolved in tartaric acid to clarify wine is not permissible and is subject to penalty. Wine thus treated is to be considered adulterated on account of the acid added.—*Consul-General Guenther, Frankfort, Germany.*

Canadian Capital in Mexico.—Mexico is becoming an attractive field for Canadian capitalists. A group of Montreal men have incorporated themselves as the Mexican Electric Light Company, with a capital of $6,000,000, and will deal in electric light, heat, and power.—*Consul-General Holloway, Halifax, Nova Scotia.*

Prize for the Destruction of Insect Pests.—The executive committee of the Rhine district has offered the Prussian government $2,400, provided $21,600 more can be raised from other sources (from the State or other district authorities), the whole sum to be offered as a prize for the discovery of an efficient agent or method which will destroy the sour worm and hay worm, or prevent the ravages of these insects. The last German vintage was severely injured by the sour-worm plague.—*Consul-General Guenther, Frankfort, Germany.*

American Confectionery in Great Britian.—Consul Halstead, Birmingham, England, calls attention to an error that was made in his report printed in Monthly Consular Reports for March, in referring to a visit of a deputation of confectioners and other allied trades upon the chancellor of the exchequer to urge a reduction of the sugar import tax assessed in Great Britain. The error consisted in making Mr. Edwards, one of the speakers on that occasion, state that the imports of American confectionery into Great Britain amounted to 150,000 tons, whereas it should have been 150 tons.

Students in German Universities.—Consul Liefeld reports 41,928 students in German universities, against 39,581 in the summer of 1904, 29,107 in the summer of 1895, 27,231 in 1885, and 16,441 in 1875, or an increase of 150 per cent in thirty years. The number of women matriculated in the South German universities, in all of which women are admitted, if not welcomed, was 137. Besides these 1,049 were registered as in attendance at certain courses.

English and American Manufactures in St. Petersburg.—An English gentleman traveling in Russia with the object of extending British trade, writing to the Illustrated London News of his experiences in St. Petersburg, Russia, says:

"A mile of shops in St. Petersburg, and I found only one which displayed an article of British manufacture! Could it be possible? One could not walk the same distance in Berlin, Paris, and New York, I assured myself, with the like result. Ha! Here is an ironmonger's with its shop front crammed with tools of every description—lathe carriers, planer centers, saws, planes, ax heads, speed indicators, stopcocks, and the thousand and one utensils of the engineer and mechanic. My eye fastens eagerly on a dozen articles. I look them over one by one. All made in the United States of America."

Zinc Oxide and Sulphuric Acid in Mexico.—Mr. Griffith, in reply to a request for information, says: There is no metallic zinc mined in Mexico. Zinc oxide and sulphuric acid, of which a great quantity is used in this country, is all imported, principally from Germany. Sulphuric acid is chiefly used with marble dust or bicarbonate of soda in the manufacture of carbonic acid gas. Zinc oxide is sold by druggists and mine and smelter supply companies.

Combination of Canadian Railroads.—The Halifax Herald says that the Grand Trunk Pacific, the Canadian Northern, and the Great Northern, have a working arrangement tending toward a general amalgamation of interests. D. D. Mann, vice-president of the Canadian Northern Railway, says: "There has been nothing decided which would warrant an announcement regarding the construction of terminal works at Winnipeg, but negotiations are proceeding in regard to joint terminals and a union depot. Plans of this scheme are in such

shape now that the decision and final announcement will in all probability be made very shortly. In itself, no great significance attaches to this statement, for it has been known for a long time that negotiations have been proceeding of which the Great Northern is cognizant along these lines, while the latter has secured a charter that would give it entry into Winnipeg. Those who contend that amalgamation is already accomplished claim that the scheme includes the incorporation of the Intercolonial and the operation of the two trans-continental lines, namely, the Great Northern and the Grand Trunk Pacific with connections wherever feasible as by the Grand Trunk system in Ontario and the Canadian Northern in the Northwest and the new V. V. extension in British Columbia."

Railway Progress in England.—Consul Stephens, of Plymouth, England, calls attention to a notable innovation on a leading English railroad. He says: The Great Western Railway Company has inaugurated a nonstop service between London and Plymouth. The train is by far the most luxurious and completely appointed ever seen in this country. The coaches are uniform and constructed on the corridor system. Three trains have been specially built for this service. They consist each of six coaches, accommodating 36 first-class and 232 third-class passengers. There is no provision for second-class passengers, but the third-class carriages are much superior to those generally in use. The trains are drawn by the new De Glyn French engines, and the nonstop run of 246 miles, claimed to be a world's record, was accomplished in 265 minutes, an average of 55.7 miles an hour. Particular features of these trains are ladies' maids in black alpaca dresses with white collars and cuffs, and fancy apron and badge, gentlemen's valets in uniform, and numbered seats, which may be reserved in advance on payment of a shilling (24 cents).

Pilchards Converted into Sardines.—A syndicate has been formed for the purpose of establishing at Looe, Cornwall, a factory for the conversion of pilchards into "Cornish sardines." The company will be known as the "East Cornwall Syndicate." The company's premises have been constructed for the double purpose of curing pilchards for the American and Italian markets and preserving them as sardines. About fifty hands will be employed when the work is in full swing, and it is calculated that about 350 tins will be the daily output. The tins and packing cases will be made on the premises.—*Consul Stephens, Plymouth, England.*

Japanese Blue Book for 1905.—The Japanese Blue Book for 1905, prepared by the department of finance, has been issued from the Government printing office at Tokyo. The progressive enterprise of the Japanese is exhibited in this publication, which is printed in English. Japanese units of money, weights, and measures are used, but their equivalents are given in English and French, many of the pages carrying footnotes explaining that the yen is equal to about 2 shillings in English money. According to the Blue Book the Empire of

Japan, comprising nearly 100 main and nearly 500 adjacent small islands, has about 18,000 miles of seacoast. It has an area of 161,148 square miles. The total population was a little over 33,000,000 in 1872, and has risen to 47,812,702, besides 3,059,235 for Formosa, these being the figures given at the close of 1905. For 1904 and 1905 in the case of Japan proper, and for 1903 and 1904 in the case of Formosa, the population is estimated at the rate of increase in the last few years. The close approximation to exactness in the division of numbers between male and female is remarkable.

Tax on Commercial Travelers in Canada.—Consul-General Holloway reports that a special meeting of the Montreal Metal and Hardware Association was held July 21 for the purpose of discussing the recently enacted law by which travelers representing foreign houses are obliged to pay $300 to the provincial authorities in order to do business. Members of the association were of the opinion that while apparently such a tax was favorable to them as Montreal business men, they nevertheless disapproved of it, and it was resolved that a committee of their number would interview members of the provincial government on the first opportunity and ask that it be rescinded.

Shipment of Oil for Japan.—The Philadelphia Evening Bulletin reports that on July 20 the steamship *Monarch* left that port with the largest cargo ever shipped from the United States in one bottom. The cargo was made up of 2,470,700 gallons of refined petroleum, 100 barrels of lubricating oil, and 1,200 cases of wax, all of which is consigned to a Japanese firm in Wyokkaichi. In illustration of the immensity of the cargo it is stated that it would require an oil well with a capacity of 3,000 gallons daily to work three years to supply the quantity of oil carried by the *Monarch*. The vessel is of English build and is 470 feet long and 56 feet broad.

Cabinet-Handle Makers' Names Wanted.—Consul Halstead, of Birmingham, writes that a firm of brass-founders, stampers, and piercers whose letter head indicates that they make bedstead mounts, fender supports, weavers' mails, and all kinds of raised articles, asks him to obtain for them the names of reliable makers in America of stamped mediæval cabinet handles, also of iron castors used by cabinet-makers.

Americans in Canadian Markets.—An American traveling in Canada in the interest of United States trade writes the Bureau of Manufactures that the people of this country do not realize the advantages Canada is deriving from its protective tariff. This gentleman expresses the opinion that Americans are likely to have a sharp struggle in the future to maintain their present foothold in the Dominion markets.

Emigration from Italy.—In the calendar year 1904 the emigration from Italy to oceanic countries aggregated 223,102 persons. Of these, 150,119, or about 67 per cent, came to the United States, 59,964 went to Argentina and Paraguay, 10,957 to Brazil, 904 to Central America, and 797 to Africa.

Foreign Trade of France.—The first three months of 1905 the exports from France were valued at $213,838,600, a decrease of $2,274,500. For the same period the imports were $238,937,800, a decrease of $4,018,400.

Costa Rica Quarantine Against Panama.—The State Department is advised by our minister at Bogota that the quarantine against the ports of the Republic of Panama by the Government of Costa Rica has been removed.

Use of Bone Meal.—According to a chemical journal the use of bone meal is made very difficult owing to its slow solubility. By means of an invention (German patent) of Dr. E. Meusel, in Liegnitz, the bone meal can be made into an iron preparation which will make it more soluble, as is the case with Thomas slag. The invention has as its basis the fact that phosphate of lime with solutions of chloride, sulphate, or nitrate of iron changes into phosphate of iron with the formation of chloride, phosphate, or nitrate of calcium. Then there is added a concentrated solution of an iron-oxide salt. In a little while the mass becomes solid. The resulting nitrate or cloride of calcium is washed out with preparations of chlorides or nitrates. The finely pulverized phosphate is very easily soluble in slightly acid solutions and also in certain salt solutions.

Postal Savings.—Consul Stephens, of Plymouth, England, writes that the postal authorities have made a regulation by which a depositor in the post-office savings bank will be allowed to withdraw any sum not exceeding one pound sterling ($4.86) from his account without previous notice, on producing the deposit book at any post-office savings bank and satisfying the postmaster that he is entitled to receive the money. It has been a drawback to the post-office savings bank system hitherto that the depositor in immediate need of a small sum has been unable to obtain it except by paying for an interchange of telegrams between the local office and London. The expense and delay of this process will now be obviated, and a depositor will be enabled to obtain an immediate cash payment at any one of the 15,000 post-office savings banks.

Wire Nail Factory.—Consul Dudley, Vancouver, British Columbia, reports that a wire nail factory has recently been established in the city of Vancouver. The machinery is operated by electric power. It is said that one order for two carloads of nails was received on July 20.

Besides, orders are coming in so fast it is necessary to operate the plant at its full capacity. The raw materials are brought in steamships from England. There is a very large demand for nails throughout the Province and every reason to expect that this enterprise will prove successful. There is an abundance of iron ore near by, and the consul believes an opening is offered for some enterprising American to establish an iron smelter, a rolling mill, and a wire-drawing plant at or near this point.

Population of United Kingdom.—The population of the United Kingdom on March 31 last was 43,219,778. England and Wales had 34,152,977, Scotland 4,676,603, and Ireland 4,390,208.

French duty on silks.—Decision in the French Chamber of Deputies as to an increase in the duty on pure silks will be postponed till January 1, 1906, on which date the French commercial treaty with Switzerland expires.

Argentina's exports.—Argentina exported, in 1904, 6,791,071 tons of agricultural and pastoral products, besides 203,119 live animals—cattle, horses, and sheep—the aggregate value of which is placed at $265,000,000.

Demand for American Machinery.—Consul Fisher, writing from Tamsui, Formosa, says that inquiry has recently been made at his consulate for catalogues and prices of sugar mills and sugar machinery, and that if manufacturers will send to him catalogues fully describing their goods, together with prices, he will place same in the hands of the inquirer.

"The largest part of the sugar machinery now in use in Formosa," continues the consul, "is of German and English make. I am informed that the results so far obtained from American sugar machinery have not been entirely satisfactory, probably for the reason that its construction is more intricate than the machinery obtained from Europe, and requires more skill in its operation. The hardness of the cane produced in Formosa might possibly be a factor in the comparative results obtained. The gentleman who made the inquiry is Mr. T. Hiraoka, manager of Messrs. Takata & Co., general merchants and importers, at Taihoku, Formosa."

Shipbuilding in Japan.—Advices to the State Department from Consul Harris at Nagasaki report that the Mitsu Bishi Dockyard and Engine Works of that city has contracted to build for the Toyo Kisen Kaisha (Eastern Steamship Company) two sister passenger steamers of 13,000 tons gross each, one to be delivered in thirty months and the other in three years. These vessels are to have a length between perpendiculars of 550 feet, a breadth of 63 feet, and a depth to the upper deck of 38 feet 6 inches. They will be built to Lloyd's 100 A 1, and

in accordance with the rules of the Japanese department of communications as well as the American Passenger Boat Regulations. They will have a speed of 19½ knots.

Motor-bus in London.—Consul-General Wynne calls attention to efforts in London to facilitate travel. He says that the Midland Railway inaugurated a motor-bus service from St. Pancras to Charing Cross and Victoria stations. The aim of the company is to improve upon the existing facilities for transporting passengers and their luggage from the Midland terminus to the termini of the south-going lines. The "bus," which opens a new route so far as the Midland Company is concerned, will pick up passengers en route if there be room, but the accommodation of other than railway passengers holding through tickets will not be encouraged. The bus is petrol driven, its engines being of 12 horsepower. It will accommodate 14 passengers.

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THE ORIENT.

CHINA.

AMERICAN DOMINATION MAY BE SECURED.

AMERICAN MANUFACTURERS CAN DOMINATE—METHODS THAT MUST BE EMPLOYED TO SECURE PERMANENT LODGMENT.

The following letter from Consul George E. Anderson, of Amoy, in which he describes prevailing conditions in China, the progress that has been made by the United States manufacturers in its markets, and what he says must be done by our manufacturers to extend the sale of American goods in the Orient, is worthy of the most thoughtful consideration. Consul Anderson points out that our manufacturers must enter China aggressively, with a determination to remain there in successful competition with all others, and to lay the foundation for permanent occupation. It is declared that the United States has gained much in the Chinese markets during the past five years, and that greater progress has not been made is largely owing to the fact that our business men have not studied conditions and methods that obtain in the Orient, and have not directed efforts to meeting local requirements, customs, and prejudices. The consul pertinently says that the United States occupies the most favorable geographical situation of all western nations, and that it has the means to dominate the trade of the Orient if these shall be properly employed. Consul Anderson's letter, which is dated July 12, follows:

The foreign trade of the Empire of China, as stated in the returns of the imperial maritime customs for 1904, amounts to over $408,482,403 gold (583,547,291 haikwan taels), this sum measuring the value of foreign goods at the moment they enter or leave Chinese territory. This value represents the whole value of foreign and Chinese goods of every description entering or leaving China, with the exception of goods of small value, comparatively speaking, which enter by native

ports not included in this customs report. An examination of this foreign trade of China in detail indicates that the business men of the United States fail to take advantage of their opportunities in many lines. A detailed examination of the exports, on the one hand, indicates that China is selling goods, or at least has goods to sell, which the United States could handle with great advantage. This is true, especially in the line of raw and waste silks and in teas. An examination of China's imports, on the other hand, indicates that American business men are not selling even a reasonable percentage of what they ought to sell. This is especially the case in cotton manufactures, machinery, and prepared and preserved provisions. Indeed, it may be said of all those articles of foreign manufacture the introduction of which in China is to make the change of China from old to new things. Yet while this is true it is a fact that American trade with China has been growing in great circles of development, and this, too, in spite of a lack of attention heretofore on the part of American manufacturers, the men most interested.

BRITISH HANDLE AMERICAN GOODS.

It is a marked indication of the strength of America's position economically that a very large portion of American trade in China at the present time is in the hands of foreigners, notably citizens of Great Britain. The natural disposition of such men is to deal in British goods. Most of them commenced business in the East by dealing in British goods exclusively. Their interests, prejudices, and business connection, as a rule, lead them to prefer British goods where possible. But in spite of this fact, many of them have generally been forced to take up with American lines to hold the trade with the Chinese they have built up after years of effort. The quality and price of American cottons, for instance, has compelled recognition. American manufactures like sheetings are better goods than British factories have sent out for the same money, and the Chinese consumer has realized this fact. What is true of sheetings can and ought to be true of finer grades of cotton goods. What is true of cotton goods, can and ought to be true with other American manufactures.

AMERICAN MANUFACTURERS CAN SUCCEED.

In America the profit and loss account of such staple lines as manufactures of cotton, machinery, and provisions are held in balance by the general law of supply and demand and interest charges. If cotton can succeed abroad, therefore, other manufactures can also succeed in the same manner. America has no reason to question its ability to successfully meet foreign competition in the markets of China. In short, the reason why the American business men have no greater share of the Chinese trade lies with the American business men themselves, not with the economic position of the United States, its relations in trade and politics to China, or any other element. American business men have their own prosperity in Chinese trade within their own control. It is rather unfortunate that many of them seem to think that already the United States has the bulk of Chinese trade. Chinese statistics show that the United States has about 10 per cent of Chinese trade as compared with about 60 per cent possessed by Great Britain. It is probable, however, that the real American portion of the trade of China is something like 20 per cent.

FACT OF FIRST IMPORTANCE.

The first great fact of the general trade situation in China which must be thoroughly realized by American business men is, that the vast bulk of the trade is British, Great Britain having about two-thirds of the entire foreign trade of China. In addition to this is to be noted the fact that much of the trade in the goods of other nations, as, for instance, American cotton goods, is in British hands, through British firms, and in British vessels. Great Britain has 51½ per cent of the shipping in Chinese waters, and the proportion of British shipping to the total has increased rather than diminished. That this is the case is not due to the fact that Great Britain can make and sell goods to China better than other nations, at least not better than the United States, but that British merchants have appreciated the value of foreign trade in China, and have been working for it for more than half a century, not to mention the trade in Chinese goods with some shipping from England to China for several hundred years previous to the partial opening of China to foreign trade.

GREAT BRITAIN'S PERSISTENCE.

Having been the first of the great powers to give attention to Chinese trade, Great Britain has never ceased to work for it and protect it when once secured during all the years since the beginning was first made. On the other hand the United States has really given the subject of trade with China very little attention, and is to-day giving it comparatively little attention. The number of concerns in America interested in trade with China, as compared with the whole of American interests, is infinitesimal. The American producer has worked for his home market, next for the European market, a little in a half-hearted way for a South American market, and even for a market in Africa, with little regard for the immense possibilities of trade in the East, for which America is the most favorably situated of all western nations. When once eastern trade has been considered the average American producer has regarded it as something which will be American anyway because of this favorable relation of the United States to the Orient. This mistaken notion is passing away and a beginning of an aggressive campaign for American trade in China has been made. But as yet it is really in the beginning. While shipments of American goods to China show a great increase, the increase is really more with the East as a whole rather than with China. As yet American trade is nothing compared with what it ought to be, considered from an international economic standpoint. The United States has the means to dominate the trade of the East if it will properly employ them.

TRADE AND INTERNATIONAL POLITICS.

The difference between American business methods and the methods which obtain in the East is marked. If Americans expect to secure trade where trade is established they will naturally have to meet their competitors upon even ground. Moreover, if the people of the United States expect to trade in the East they will have to be making preparation to that end. They are already at a disadvantage in the lack of territorial concessions where concessions mean

prestige and actual trade advantage. Their policy in international politics has been such as will avoid international complications, but which will likewise avoid some of the beneficial results of political engineering. In China trade and international politics can not well be separated. The reforms now necessary to Chinese trade are dependent upon political reforms. Trade treaties with China are of little moment if their provisions are not carried out, and China is not living up to its promises in trade treaties, nor will it do so until there is such political reform that there will be responsible authority in such matters, and until the country is really able to make good the promise it has made.

SALES BY AUCTION COMMENCED.

There are methods of actual business, too, which must be regarded. As a result of the uncertainties of exchange, wherein a purchase of goods abroad has become a matter of speculation as to whether or not exchange will rise high enough to wipe out all prospective profits on the goods handled, merchants in China have taken to auction sales, commission transactions, and the like. In his efforts to avoid the result of exchange fluctuations the average jobber in China at the present time sells his goods before he buys them, the transaction being little different from a purchase abroad on commission. Many of them have taken to the plan of receiving consignments upon commission for sale by auction. It is a little difficult for the average American manufacturer to adjust his business methods to such ways of doing business, but it is difficult to see how he will get business done in many lines unless such methods are adopted. After all, as a trade man has shown, the commission system leads to the manufacture and sale of goods which suit the market, goods which are wanted, and not goods which some one thinks are wanted. And the auction system is far more reliable in securing the highest market price for goods than similar sales would be in the United States. The British auction system is in reality much the same sort of buying and selling as that which controls the price of grain or provisions on American boards of trade. The Anglo-Chinese system, while different from the American system of selling, after all depends upon the same principles and has practically the same results.

AMERICANS MUST WORK FOR THE FUTURE.

The American business man also needs to regard permanent trade as his object, not the mere attainment of temporary advantage and present sales, even though the latter may be very large and satisfactory. The present trade efforts of Americans are calculated to secure present trade rather than to lay the foundation for years to come. The policy of the men who have built up the foreign trade of China has been to work for the future, and the policy has paid, and paid well. Men who are doing the most trade in China at the present time have for years devoted a certain portion of their annual earnings to the extension of their trade. Every corporation of good standing doing business in China—and a very large portion of business is done by corporations rather than by individuals—carries on its books an ample reserve, which is designed not only to protect the company against bad seasons, but also for an aggressive trade campaign as well.

In a country in which trade is more or less experimental, according to modern rules, profits are figured large on an average, and there can not be as close figuring either in the matter of extending trade or in the general use of money in a business as there is in America or Europe. This does not necessarily imply that a business is unsafe, but it is due to the fact that conditions are not so well defined.

AMERICAN GOODS IN AMERICAN SHIPS.

It is perhaps needless in this connection to speak of the importance of carrying on American trade in the East in American vessels. American trade in this part of the world will never be upon an equal basis with that of other nations until American goods are carried here in American vessels, until there is that transportation service which goes with regular vessels from the United States to the Orient, that advantage to trade which is possible with direct cooperation on the part of shipper and transportation interests, and that prestige which goes in a foreign market with a dominance of shipping. Even that slight increase in American shipping in Chinese waters which is represented by the rise in its percentage of the whole of shipping entering Chinese waters to 1½ per cent is acceptable. While American trade in the Orient is rapidly increasing, the increase of shipping is not keeping pace with it. Nor do Americans get credit for the trade they actually have, because of the lack of American shipping to make a proper display of it.

The nation which has the most shipping naturally is given the popular reputation of having the most trade, and the nation having the most trade is regarded most favorably for new trade. American interests out here suffer unduly by reason of the fact that British interests have credit for much trade that is in reality non-British. This is but a radical aspect of the one great drawback to the proper advancement of American trade and interests in the Orient under present conditions—the fact that much of American trade is British owned, and the American goods get to the Chinese consumer mostly through British or other foreign hands. With Americans handling American goods with characteristic American energy, the increase in American trade in China would be far more rapid than it now is.

SMALL PROFITS AT THE OUTSET.

American traders need not expect to realize immense profits upon a business in China from its inception. The firm which will make a success is the one which comes to the country prepared to lose money for several years, if necessary. It by no means follows that money will be lost, but provision therefor should be made, and profit will come in due time. American interests have given China more attention in the past five years than in many years previous. This attention is having a most gratifying result in a rapid increase in American trade and a betterment of American interests. American manufacturers have commenced to properly study the Chinese market, and having studied it they will commence to manufacture for it. When American goods suitable for Chinese consumption are made upon that margin of profit which is counted as acceptable in international trade generally, American manufacturers will dominate the market of China. I believe their economic position is impregnable.

DEVELOPMENT OF CHINA'S EXPORTS.

Regarding China's export trade Consul Anderson says that as trade depends upon the power to purchase, China will cease to buy unless she can sell. On this subject he says:

It is a notable fact that those nations which are doing the most at the present time to develop their trade with China are doing little, comparatively speaking at least, for the development of China's export trade. So long as China buys foreign products, the end of all trade efforts, according to a strongly marked disposition on the part of some commercial circles, has been reached, yet at the same time there has been a fear, often expressed, that China would not always be able to buy foreign goods since the balance of trade has been so long against the Empire.

As a matter of fact the balance of trade has not been against the Empire; for while the surplus of imports over exports last year (1904) was that of 344,060,608 haikwan taels (imports) over 239,486,683 haikwan taels (exports), a difference of 104,673,925 taels, or $73,271,747 gold, the difference is more than made up from year to year by movements of treasure representing Chinese earnings abroad, by money expended in China by foreigners for one purpose or another, and by exports to the west and north, of which no account has been taken in the above figures.

At the same time, it is easy to see that if a nation so poor as China has been, which is still poor as regards foreign credit and conditions which go to establish a nation in foreign commercial dealings—if such a nation can not sell goods it can not buy them. Nations pay for their imports by their exports, and the gold or silver which changes hands across international boundary lines is never a very great factor in international trade except where it is transferred as a commodity, like any other article of production, rather than as money. China most assuredly is no exception to this general law of international trade. If, therefore, western nations expect to sell goods to China in constantly increasing amounts, an expectation both natural and reasonable in view of recent history and apparent possibilities, these same nations must have full regard for China's export trade.

CHINA'S PRODUCTS SHOULD BE ENCOURAGED.

China's export trade is not greatly on the increase. On the other hand, there are constantly expressed fears that it will not grow in the near future as it should. The most notable feature of the export trade of the Empire at the present time is in the rise in importance of exports other than tea and silk. The relation of tea and silk to the export trade of the Empire has been discussed heretofore in reports to the Department. Generally it may be said that while both tea and silk show something of an absolute increase over the tea and silk exportations of forty years ago, they have fallen in comparative importance from 58 and 24 per cent of the total exports in 1864, as compared with 12 per cent of cotton and 6 per cent of other goods, to 12½ per cent for tea, 33 per cent for silk and 10½ per cent of cotton and 44 per cent of other goods in 1904.

The new exports include articles of many varieties. Bean cake for Japan amounts to from 3 to 5 per cent of the total exports yearly.

Enormous quantities of eggs are exported for their albumen; also opium, cotton and rape seed; minerals, straw braid, sugar, oils of various sorts, hides, feathers; manufactured goods like fans go abroad in increasing quantities, as do mats, rush and chip hats, hides, hemp, grass cloth, timber, tobacco. The list of articles now exported by China, in addition to the old exports of tea and silk, is a long one, and needs to be carfully studied by the American manufacturer who desires to widen his own trade so as to include China among his customers.

THE SILK AND TEA TRADE THREATENED.

The encouragement of the consumption of the Chinese products in the United States is one of the best ways of getting at the Chinese trade situation. The tea trade of China is threatened, indeed, it may almost be said to be on its last legs, because of competition in other countries, and yet China can produce the finest tea in the world and is now shipping to the United States, as its best customer, grades of tea which India and Ceylon are ineffectually attempting to imitate. China's silk industry is threatened. It needs modern science to supplement the wonderful advantage China has in the silk business naturally. At the present time the United States is not using Chinese silk products to the extent it may profitably use them, especially raw silk and waste silk for raw materials. The American silk men are investigating the situation, and they will find it profitable to do so.

While the development of trade in other lines shows that China no longer depends totally upon its tea and its silk to pay its foreign bills, the tea and silk exports of the Empire are not what they ought to be and what they will be with proper development and care. It should be impressed upon the business men of the United States that it is their business as well as that of China to support these drooping industries and to give encouragement to efforts made to revive them. The business men of the United States have a vital interest in the development of Chinese export trade. The greater the export trade of China the greater will be its consumption of foreign goods. China at the present time does not measure its consumption of foreign goods by what it wants, but by what it can afford to buy.

EXPORTS WILL PROMOTE IMPORTS.

The development of China's export trade means the development of Chinese import trade. The more money the Chinese producer receives for his goods sent abroad the more money he will have for the purchase of foreign goods. It may be safely relied upon by all nations that the Chinese consumer will not buy until he can produce and sell. He has little or no surplus to draw upon for what he wishes to buy, and the natural result is that he must pay for his purchases in goods of his own production. This, indeed, is a great law of international trade, and it applies with more than its usual force in the trade of China. American trade interests looking to Chinese markets must expect to buy as well as sell, to take as well as give. There is no reason why China should not have a constantly increasing share of the trade of the United States as the United States is to have of China's foreign trade. It has much to offer and can offer what it does have at attractive prices. The constantly increasing disposition of the manufacturers

of the United States and other nations to look to China for their raw materials, which is to be traced in the increased exports of egg albumen, hides, oils for paints and varnishes, cheap paper, skins, wool, and similar goods, is one of the most encouraging features of the Chinese trade situation. With more attention to Chinese tea, and especially to Chinese raw and waste silks, American business men can work to their own advantage not only in the purchase of these goods for their own use, but in the increase in the buying power of the Chinese which such purchases will effect.

TEA-MAKING MACHINERY.

A number of tea-trade journals in the United States and England at the present time are containing accounts of the successful operation of tea-curing machinery at An-Pei-Ching, near Tamsui, Formosa. The accounts are so much alike as to suggest that they have come from the same source. They represent that the operation of the machine-curing plant in Formosa, which was established by the Japanese Government late in 1902, is very successful, and intimate that the machine process is likely to soon supersede all others. As a matter of fact the machine process is not a success from a commercial standpoint, and if it should supersede present methods, would likely revolutionize the Oolong tea trade of the world.

The machinery plant was established by the Government in Formosa a little less than three years ago, in line with the movement in Japan to produce machine-cured tea for competition with the rapidly growing Indian and Ceylon tea trade, the firing of the latter teas being practically altogether by machinery. The plant was well built and splendidly equipped and is beautifully situated. It was realized at the beginning of the enterprise that the Indian and Ceylon methods would have to be modified considerably before they could be adapted to the Formosan or Chinese teas, and the plant established in Formosa was constructed partly in England and partly in Japan by a Japanese expert who had studied Indian and Ceylon methods, this expert practically constructing a new machine for "withering," "sieving," and "rolling" the leaf. The factory thus established is supposed to have a capacity of 500 pounds of tea per day, or, possibly, 100,000 pounds of tea per season, working under pressure. Speaking of the results of the establishment of the factory, a tea expert well known in America as one who has long been identified with Formosan and Chinese teas, says:

"So far as I am able to get at the results of the experiments in this connection, as demonstrated in the working of the Formosan government's An-Pei-Ching plant, the 'withering,' 'sieving,' and 'rolling' machine processes are a success with the leaf, while the 'cutting' and 'firing' is considered, at least by Chinese experts, to be unsatisfactory. Firing by 'desiccator' machine is said to be too quick, better results being obtained by the old-styled basket firing. It is generally believed here that the government experiments in the machine plant have so far been carried on at a loss."

MACHINERY NOT POPULAR.

It is a notable fact, therefore, that the portion of the machine plant which is a success is the portion which was worked over or adapted by the Japanese expert. Practical tea men here are unanimously of the opinion that machine curing will not become general in Formosa, at

least with labor at its present price and with no greater success on the part of the machine plants than has so far been attained. There are a number of reasons why machine curing will not be rapidly introduced, other things being equal, and these reasons will appeal to the trade in the United States.

TRADE WITH UNITED STATES.

The bulk of the Formosan Oolong tea trade is with the United States. It consists of a number of certain well-known chops or brands prepared by certain well-known processes and representing certain qualities. The tea men of the United States have built up trade in these respective grades, and a variation from these would probably have very disastrous results to that trade. It has been the custom of the American houses to buy their tea from year to year of Amoy or Formosan houses, chiefly the former, and they have come to rely upon them for their particular brands or grades to supply their own particular trade. The "good will" of the business of these Amoy tea houses has come to be very valuable, and the unity of interests between the American tea seller and the commission houses here which do the buying for the American sellers is strong. It is easy to appreciate the fact that unless the machine-cured tea is practically the same as the several chops or brands to which the American consumer, who takes nine-tenths of the Formosan crop, is accustomed, the trade will be interfered with directly and vitally.

The machine-made tea is not the same as the other brands, and it is likely that it would not be a success for that reason if for no other. The machine-curing plant has been interesting as an experiment, but it is hardly probable that the tea business of Formosa will be revolutionized at this time, when the island's best customer is not willing to have it revolutionized. So long as the grades and chops now in use can be produced as cheaply as the machine-made tea, there is no reason why American tea men or their representatives here should turn to the machine-made product. The firing and curing processes of expert Chinese workmen—processes worked out after centuries of experiment, trial, study, and practical experience—can best deal with varying leaf and changing conditions in the crops. Delicate flavors are not always conserved best by machinery.

So far this season the Formosan tea crop is fairly good. It is moving to the United States with unusual promptitude, 1,205,521 pounds having been shipped out of Amoy for the United States previous to June 15. The weather at present is also favorable to good crops later in the season.

QUALITY IN COTTON GOODS MUST BE MAINTAINED.

If there is one thing I feel it my duty to impress upon the American cotton manufacturer, it is the need of maintaining his products at as high a quality as they have had in the past. In spite of demand at home and in other portions of the world; in spite of high-priced cotton and high-priced labor; in spite of unfavorable exchange, manipulated first of all to the disadvantage of the American exporter; in spite of the fact that the markets for imported cotton in China have been held by others, and the fact that most of the American cotton goods sold in China are sold by non-Americans, the American cotton manufacturers have moved steadily upward.

The amount of cotton goods they have sold in China in the fiscal year just closing demonstrates that, even allowing for an unusual change and a particularly favorable turn of affairs, they are capturing the Chinese market. There is just one reason for this state of things—they are selling better goods for the same money than are sold by others. The whole story is one of quality, and this story is to be told from Manchuria to Canton.

CHINESE ARE GOOD JUDGES.

It is doubtful if there is another people on earth as good judges of value as the Chinese. Their average possession of worldly goods is so small that what they do have they know all about. The margin between their earnings and their expenses is so small, where there is any at all, that every expenditure is watched with the utmost care. They are a thoroughly clothed people, even in the southern provinces, and clothing is even more of a social necessity with them than it is with other nations professing to be further advanced in civilization. It goes without saying, that anything that affects their clothing affects them directly and at once. Practically the basis of all their clothing is cotton, or, in the case of the well to do, a measure of silk. China's position as an authority on silks has been acknowledged and admitted by the world for centuries, and yet there seems to be a disposition on the part of some foreign manufacturers to deny the same knowledge of cotton.

I think that, without doubt, the Chinese people as a whole are the best judges of ordinary grades of cotton manufactures on earth. When it is considered that possibly nine-tenths of the people in a population of about 400,000,000 have an intimate knowledge of cotton as it is grown in the field, as it is gathered, ginned and carded, spun, woven, and dyed, a knowledge not secured vicariously or theoretically, but by actual labor with the staple for clothing for their own family, it ought to be realized what the cotton proposition in China really is. It should be realized most thoroughly by every American manufacturer that, while American cottons may be comparatively new in China, cotton manufacture itself has been here almost as many centuries as most of the American factories have existed years, and other foreign cottons have been coming here for many years.

HIGH PRICES STOP CONSUMPTION.

The superiority of foreign goods is the only reason why the Chinese consumer should use them. The price of a comparable grade of goods of Chinese manufacture is generally very nearly the same as the price of the foreign product. When the price of the foreign product goes up Chinese consumption stops, and the native returns to his home weaving of native cloth. China imported last year a total of $90,370,784 worth of cotton goods and cotton yarn, not including cotton and woolen mixtures or cotton and silk mixtures. Almost exactly one-half of the total of cotton importations was cotton yarn. In other words, the natives have manufactured out of foreign-made yarns more cloth than they have bought from the foreigner; and it is safe to say that in this native-made cloth, though made from foreign yarns, there is no "weighting" clay. The real cotton is there, and the reason the Chinese prefer this native-woven cloth is because of the quality.

Not even the importations of foreign cotton goods and cotton yarn, however, compare in magnitude with the real Chinese cotton industry. There are tens of millions of people in China who probably have never owned a foreign manufactured piece of cloth. China produces and manufactures most of its own cotton and finds time and opportunity, and profit enough to justify it in exporting $9,305,229 worth of raw cotton a year to foreign countries, as the nation did last year. A recent estimate published in Europe and America places the number of cotton spindles in China at 600,000, and the number of looms at 1,200. As an estimate of the foreign spindles and looms in operation in the country, this is probably too large.

China not only can but will manufacture its own cotton goods if the goods imported do not meet its requirements in quality and price. Cotton cloth manufacturers of the United States ought always to have before them the specter of a flood of cotton yarn; for the thrifty Chinese peasant, when foreign goods get too high or too poor, simply returns to his ancient industry—a home industry, simple but effective—of making his own cotton cloth, from foreign cotton yarn, if it can be had to advantage, or from his own cotton yarn made from cotton raised by himself if need be.

The quality of European goods sold in China has deteriorated in late years, and the result is that European trade is falling off in proportion to the whole trade of the Empire. American goods have gained immensely and enjoy a good reputation. The secret is that of quality. The common grades of cottons must have wear in them. The demand for the fancy grades is constantly increasing. China is growing wealthier every year, and as its wealth increases its people can and will buy grades of cottons which can not be manufactured in China, at the present time at least. Having shown their ability to meet the competition of the world in the staple grades, there certainly should be no reason why American manufacturers should not be able to compete with the world in other grades. America has the raw material and it has demonstrated its manufacturing abilities. A little steadiness and adherence to the policy of giving the consumer what he pays for will do the rest.

HINTS FOR MANUFACTURERS.

An American missionary engaged in work in and near Amoy relates to me the following experience she has had with American cotton cloth, which is very significant and represents, I believe, the actual situation in the cotton-goods business of this portion of China:

While in America some time ago she bought a supply of cotton cloth for general domestic purposes, most of the goods being a very light-weight ducking. She brought it to China and has used portions of it from time to time in the ordinary course of housekeeping and family requirements. Recently it was decided that this missionary should return to the United States, and she commenced to sell all such supplies she had on hand which it was impracticable to take back to the United States, and among them was a supply of this cotton cloth. Her native Chinese tailor had worked with the cloth before, and upon learning that she had some for sale, inquired the price. He was told that he could have what he wanted at 50 cents local currency (about 22½ cents gold) per yard. He took all that was to be had. Later the

laundryman of the missionary's establishment asked her if she had any more cloth for sale. He said he had heard that she had cloth of unusual quality which she was selling at 75 cents per yard. She told him the price was 50 cents.

In other words, the tailor had sold the cloth he bought at 50 cents for 75 cents per yard, and the people who bought it were so well pleased that its fame spread from tailor to laundryman, between whom there is no connection. The people concerned declared that nothing of like quality was to be had in the Amoy market for anything like the price at which the tailor sold the goods. The goods were bought by the missionary in a New York department store in the ordinary course of a retail business. It was sold to the tailor at a rate which represented its cost and transportation charges.

ORGANIZATION NEEDED.

There is no question but that American cotton interests have not the business they ought to have in China and that they will have if the proper methods of securing it are followed. The goods bought by the Chinese at a price similar to that paid for the American cloth above described are of British manufacture and generally contain a large amount of clay and other adulterants. They are bought in Hongkong, and represent British efforts to sell British goods without regard to better goods to be had elsewhere for the same money.

The Chinese of Amoy really have no opportunity to buy American cotton goods, and it is difficult to see wherein this is the fault of any one but the American manufacturers mostly concerned. Until they secure the proper introduction of their products they can not expect to sell their proper share of cotton goods, and the first needful element in the campaign for business which they must make if they expect to secure it is the maintenance of the high quality of goods of grades which are supposed to represent wear. American cotton interests need organization, and I believe that such organization should commence in the United States rather than in China. The work in China, in my opinion, should be done through a corps of representatives working through Chinese agents.

FERTILIZING MATERIAL WANTED.

The prospect is that certain American interests working through the Philippines will inaugurate an extensive business in commercial fertilizers along the lower Chinese coast. Representatives have been on the ground investigating the situation, and their opinion is that the opportunity for a large and successful business is exceptionally good. It seems probable that this enterprise will take the form of a Hongkong corporation, because the incorporation laws of Hongkong give a more favorable charter than can be had in the United States. But the interests back of it will be essentially American.

The field for fertilizers in China is without limit. Practically all the ground now under cultivation has been under the same sort of cultivation, the most intensive sort of farming, for perhaps two thousand years, some of it, of course, much longer. The Chinese have their own methods of fertilizing their grounds, and perhaps, considering their means and position, it has been the best they could do.

But the increase of medical knowledge is forcing a change from old methods for the prevention of typhoid, if for no other reason, and the advantage of modern fertilizers is coming to be appreciated. At present the Chinese are using for fertilizers anything that can be had. The principal commercial fertilizer is bean cake. The port of Niuchwang alone ships bean cake to the value of $5,000,000 gold a year, most of it coming to lower Chinese coast points. It is one of the chief commodities in the trade of Amoy, Swatow, and similar coast ports, vast quantities of it being handled through these points for the interior.

In addition to the amount of bean cakes sold in China, the country is accustomed to ship about $3,800,000 gold worth a year abroad, mostly to Japan, but the war interferred considerably with the sale of last year. On the other hand, it is already importing a considerable amount of commercial fertilizer. Manure cake, potash, nut cake, and other varieties aggregated close to $25,000 gold, in addition to the $900,000 of bean cake imported in Amoy alone last year.

The foundation for the business of this American enterprise is already laid, and Chinese merchants in the interior are commencing to handle such goods. It only remains to secure what trade there is and to further develop it by furnishing fertilizers in better quality as cheap or cheaper, compared with prices now paid, and it is believed that this can readily be done.

ACETYLENE GAS MACHINES.

American acetylene gas machines are making a good fight for a hold upon the lighting business in China, and they will probably get a good share of it, certainly most of what this line of lighting is likely to obtain. The Chinese in the open ports where bicycles have been introduced run to acetylene gas lamps, and inasmuch as they run to cheap things at the same time, it is quite common to see a two dollar and a half lamp on a twelve dollar and a half bicycle. Comparatively few Chinese shops have taken up with acetylene gas as an illuminant, most of them passing from the one extreme of small kerosene lamps to electric lights in the open ports, where such modern conveniences are to be had at all. Many missionaries in China have imported acetylene plants of greater or less capacity for lighting their school and other buildings, and unless there is greater progress made in electric light plant installations in the near future than there has been in the past two years, more will look after some such means of lighting their premises.

There ought to be an immense field for the introduction of acetylene light plants in all parts of China, although so far the success attending experiments in this line has not been marked. For instance, several years ago a comparatively large acetylene gas plant was imported in Amoy for the lighting of a large hotel building. It was tried for awhile, and efforts were made to induce residents to establish similar plants, but the gas was not popular. The hotel plant was allowed to go to ruin. Later it was sold for 5 per cent of its original cost, and then was not used. However, there are many places where the gas would be useful, and there ought to be a sale for lamps, plants, and materials. I believe that American manufacturers will do better in the long run by trying to introduce their goods through Chinese agencies than through the agency of foreign firms in the Chinese ports.

So far as I am able to learn, practically all of the calcium carbide at present used in China comes from the United States, little, if any, being manufactured here. It is impossible to give exact customs figures, for the amount used is not large enough to secure separate customs classification in the returns for most ports. According to the customs returns, Shanghai has been importing only about $300 gold per year. Doubtless the real amount is much larger. Chefoo has shown unusual activity, having imported $2,484 in 1903, the last year of published record, most of it being received from Chinese ports. There is nothing in the record of that or any other Chinese port to show where this comes from, but it probably comes from Shanghai, where it was included under the head of "chemical products." While the amount imported in China is uncertain, there is no doubt but that the use of acetylene gas and the consumption of calcium carbide are rapidly increasing.

MORPHIA AND FLOUR.

The interruption in the flour trade of China, which resulted from a recent attempt to smuggle morphia in a flour shipment from Hongkong to Amoy, has been checked, and the trade is now about normal. Similar reports come from Swatow and other affected ports. In this connection it is to be hoped that something will be done to stop the smuggling of morphia, the dangerous nature of which practice, aside from its relation to the customs revenue and the criminal code, is to be found in this case of flour poisoned by the drug hidden in it. With respect to the smuggling of the drug, the customs commissioner of Amoy, in his annual report now in course of publication, says:

"A special mention should be made of morphia, of which 19,906 ounces were imported in 1902, owing to the impending introduction of the tariff, and 3,101 ounces in 1903, which still paid the old 5 per cent ad valorem duty, while only 8 ounces were reported this year. The market value of morphia at this present moment is still below 3 haikwan taels per ounce, the duty which it is supposed to pay. There is not the least doubt that this dangerous drug is still in great vogue among the Chinese and that the high duty has not in any way stopped its importation, but simply induced the smuggling of this very easily concealed poison."

The smuggling of this morphia, in which trade Americans can have no part, has cost the flour producers of the United States more than the morphia is worth. In view of recent disastrous results, however, it is probable that there will be no more attempts to smuggle morphia in flour for some time to come.

CORPORATION LAW NEEDED.

It is a fact worthy the consideration of legislators in the United States that there are few, if any, corporations organized abroad under American laws, even though a majority of the projectors of a new enterprise may be Americans. A case in point is that of a company being organized at Manila to carry on trade in fertilizers along the Chinese coast. This company is practically composed of Americans, and will deal very largely in American products. But it is to be organized under the laws of Hongkong, a British colony, because of the fact that the terms granted in Hongkong's charters are more liberal

than can be had in any of the States of the United States with one or two exceptions, and can be had at much less cost and with much less trouble and expense.

The practical result is that American enterprises are being organized under foreign auspices, the foreign nation concerned gets the benefit of whatever taxation comes under such charters, and credit for the business done by the corporation. In the Far East, as it is elsewhere, the concern which has the reputation of doing the most business is very likely to get the greater portion of new business that arises, for the simple reason that people naturally deal with the more popular concern, other things being equal. On the face of things British interests have nearly two-thirds of the foreign trade of China. As a matter of fact they have considerably less than this, much business which really represents American production and export being done in British names and under British auspices. It does not help American trade, however; that much of the trade of the United States now has is British owned at the time of its actual contact with the Chinese consumer. This matter of unfavorable incorporation laws in the United States illustrates some of the reasons why the present state of things obtains.

INDUSTRIAL ENTERPRISE.

A movement to establish in Amoy a factory to manufacture porcelain and china ware is attracting attention. The erection of a plant is to be started as soon as arrangements for building can be completed. There has been some difficulty and consequent delay in securing the necessary capital for the enterprise, the sum needed being $90,000 gold. This movement is not only significant in connection with what may be reasonably expected of the Chinese in the way of industrial development, but it is especially interesting to note that the Japanese have eagerly entered upon the work of promoting their trade with the Chinese Empire. What Consul Anderson says about the activity of the Japanese in studying conditions in China will be particularly interesting to our own manufacturers at this time, in view of the efforts that are being made to promote American trade in the Orient. He writes:

The erection of a plant for a porcelain factory in Amoy is to be commenced in a very short time, according to statements of the Chinese promoters of the enterprise. The promoters are young Chinese of the gentry class who have been educated in Japan. They propose to employ a Japanese porcelain expert at the commencement of the work, and to send young Chinese to Japan to study porcelain making in that country. The plant is to be located upon Quemoy Island, a large island separating Amoy Harbor from the ocean. The proposal is to make Chinese wares at first, until the workmen and plant are brought to a proper degree of efficiency to compete with the Japanese and other foreigners in the manufacture of foreign-style dishes. This factory enterprise has been greatly favored by the Board of Commerce at Peking and seems to have all the enthusiasm and cooperation necessary to make it a success.

THE PROGRESSIVE JAPANESE.

There is no question of the need of such an enterprise in this portion of China. The raw material is to be had in abundance and cheaply,

and, on the other hand, the finished china ware brought here is costly and comparatively of poor quality. Much of the foreign-style china ware now sold in China comes from Europe, some from the United States, and considerable from Japan. The Japanese, following their usual policy of ascertaining what is wanted and then making it to suit the customer, have already commenced to import and sell in China, in competition with the old-style Chinese potteries, the particular style of dishes used by the Chinese. Rice bowls of Japanese make may almost be said to control the market in some of the open ports. The demand for foreign-style dishes exists not only among the constantly increasing foreign population in the open ports, but among the well-to-do Chinese as well, to many of whom foreign ways of serving meals are appealing in no slight degree. They also are purchasing foreign-style dishes for entertaining foreign visitors. The average official residence among the Chinese officials is well supplied with foreign table cutlery and china ware, and the demand for such goods to supply this need alone is considerable.

Last year there was imported to China china ware, fine and coarse, to the value of 298,534 haikwan taels, or $208,973, as compared with 305,968 taels, or $214,177, in 1903. The Japanese product seems to be growing in popularity, because for the same money the Japanese seem to be able to lay down in China a better and more artistic grade of goods than their European competitors. The Chinese of the better classes are connoisseurs in the china-ware line, as the centuries of Chinese art in certain porcelain lines naturally fit them to be, and it may be said safely that in general, where there is any attempt to meet artistic requirements at all in china ware, the Chinese will prefer artistic rather than strong ware. Those in position to do so will pay a fair price for goods which are both strong and artistic, and the average Chinese user of porcelain will pay more proportionately for his china ware than the average of many other countries.

GOODS THAT ARE NEEDED.

Vice-Consul Cloud, of Hangchow, in answer to numerous inquiries from the United States about the real conditions in China, writes:

Hangchow is a city of 500,000 or more people, and was made an open port at the close of the Chino-Japanese war in 1896. At present, however, there are no foreign firms, aside from a few Japanese notion shops in Hangchow, and the immediate future does not promise any change in this direction. The amount and value of imports during these few years have nevertheless increased greatly, and there appears to be scarcely any limit to the possibilities of the import trade in this region.

Hangchow is not a seaport, and all, or nearly all, of the goods imported are purchased from Shanghai jobbers and reshipped at that port. As far as I can learn, no goods are imported direct from America or from any other foreign country. The fact that the native merchants can find in Shanghai by personal purchases the kind and quality of goods most suited to their customers, and thus see just what they are buying and at the same time secure favorable terms of credit, renders it undesirable on their part to import the goods on their own responsibility.

A PROFITLESS PRACTICE.

There are large lines of goods, such as notions, toys, kerosene lamps, straw hats, clocks, watches, garden tools, shoes, rubbers, patent medicines, kodaks, photographic supplies, cheap motorboats, soap, towels, tinned provisions, etc., that would find a large market here, if these various articles could be placed directly before the people by live, up-to-date salesmen, and then followed by persistent and intelligent advertising. But the present practice of American firms of sending out catalogues in English to the various consulates, with the idea that they will reap a rich harvest, is as foolish as it is expensive. Not one Chinese in 100,000 can read English, and if he could, would not understand what it was all about, for the reason that the article advertised would be new to him.

The Chinese for the most part are coming to appreciate foreign-made goods, and are only waiting to be shown what a given article is made for and how it will add to their comfort and convenience. For foreign firms to depend on elegantly printed and embossed catalogues in the English language to secure trade in China is to follow a policy based on utter misapprehension as to the requirements of trade in China. The opportunities are here, and the firm or firms willing to spend a few thousand dollars in putting agents out among the Chinese to show their wares and mix with the people, and who, too, are willing to make a class of articles especially adapted to the needs of the Chinese, are the ones that will reap rich harvests in the next few years.

BRITISH ADVICE.

H. H. Fox, of the British consular service in China, is visiting the large manufacturing centers of Great Britain, and talking with the manufacturers on conditions in China. At a recent meeting of the Leeds Chamber of Commerce Mr. Fox stated that British manufacturers had to face the competition of several nationalities in the Chinese Empire, and when the war in the Far East was over their most formidable rivals would be the Japanese. They were opening commercial houses and sending travelers throughout the country.

The Americans were opening up a big trade on the Pacific coast with Shanghai, while the Germans were following closely in the matter chiefly of machinery. He was not in favor of the British method of dealing with the Chinese by means of a middleman. Manufacturers should send their agents to travel in the interior of China and discover what the Chinese really wanted. The agents should go out for a year or two; they could acquire a working knowledge of the language in six months. The country was being opened up for trade, which would be greatly increased when the war was over, and British manufacturers should take steps to secure the major share of that development. He depreciated the sending out of catalogues unless they were printed in the Chinese language, because otherwise not more than 10 per cent were ever likely to reach the Chinamen.

VALUABLE CARGO.

Special Agent Henry R. Burrill, who is now in China, furnishes interesting facts regarding the cargo of the steamship *Manchuria*, on which vessel he sailed from San Francisco. Agent Burrill's letter was

written on the way out to Honolulu and was mailed from that place July 13. His letter follows:

The *Manchuria* carried on this voyage a total of 76,008 packages, divided as follows:

Cotton	2,576
Domestics	10,616
Canned goods	12,932
Leather	2,485
Flour	30,186
Hams and bacon	2,024
Bottled beer	1,250
General merchandise	13,939
Total	76,008

The value of the foregoing is placed at $113,816.50. This is an unusually light cargo. The cotton is put up in bales, domestics in bales, trusses, and cases, canned goods in cases, leather in rolls, bales, and cases, flour in one-fourth barrel sacks, ham and bacon in cases, and bottled beer in barrels. The raw cotton is consigned to Japan and the domestics to Shanghai, for distribution in northern China. About 30,000 sacks of flour are for Hongkong and the rest of the cargo is for various ports. This line frequently carries consignments of pig lead for Shanghai. This is made up into lead boxes for the exportation of tea. There are now 20 cases of sheet lead on board for Shanghai, which will also be made up into tea boxes.

FLOUR FROM THE PACIFIC COAST.

Horace Davis, president of Sperry & Co., one of the largest flour exporting houses on the coast, stated that the exports of flour from Washington, Oregon, and California to Hongkong approximate annually 1,200,000 barrels. Flour exports, however, depend largely on conditions in China. A short rice crop produces an increased demand, while a large crop with correspondingly low prices decreases the demand. From Hongkong this flour is distributed through southern China and points south. The shipments were made originally in barrels of 196 pounds, but the Chinese merchants demanded smaller packages, and now the universal method of shipment is in cotton sacks containing 49 pounds each. The Chinese would prefer even smaller packages, but the exporters declare that a further reduction in size could not be made and permit a fair profit.

For the purchase of flour and presumably other commodities the Chinese merchants form a group or syndicate of five (more or less) importing concerns, negotiate with the agent or representative of the American exporter at Hongkong, and agree on a price. While one group may deal with Sperry & Co. other groups select different exporting houses, but individual flour importers are a rarity for obvious reasons. The order is transmitted to the United States by the agents, and when the flour is delivered to the ship the exporter draws on the Chinese buyer through the San Francisco banks, and the same ship that carries the goods carries the bills, which are promptly paid when presented. It is practically a cash transaction. The commercial integrity of the Chinese merchant is universally commended on the coast.

The flour exports from the Pacific coast are largely "straight" flour—that is, a grade in which every part of the wheat is used except

the bran. There is, however, a considerable demand for a higher grade used by the wealthier classes. From information obtained in San Francisco it is evident that the Chinese would prefer low-grade flour in smaller packages than exporters are willing to supply.

FIELD FOR EXPLOITATION.

As a result of two or three days observation and inquiry among mercantile classes of Shanghai, Mr. Burrill writes:

I am certain that China presents a magnificent field for exploitation of American manufactures, and am convinced that only a continuance of practically a total disregard of American exporters for the requirements of the Chinese trade will prevent a steady growth of importations from the United States. This great commercial field is open to the United States, whose geographical advantages are supplemented by the friendship of the Chinese people and their preferences for Americans and American products, provided the manufacturers will do their part. But in this Japan must be reckoned with above all other nations. Japanese enterprise is apparent in China, and there are unmistakeable evidences in Japan of preparations for occupying Chinese markets with a number of products that are now supplied by the United States and other nations.

THE COMPRADOR SYSTEM.

ITS INFLUENCE AND OPERATIONS DESCRIBED.

American firms dealing in the Far East must acquaint themselves with a number of unusual business methods, among them the comprador system, which has its highest development in China. Business houses deal with the Chinese through a Chinese agent known as the "comprador." Originally this agent was simply a man who engaged servants and bought supplies in the native markets. For years the system has developed, however, until now practically all the business of foreigners with Chinese is done through agents of this sort, whether it be in buying or selling, in loaning or in borrowing money. In many firms the comprador is a partner; in many instances he is in reality the owner of the business, furnishes the capital, manages it, and uses the name of a foreigner to secure foreign protection from the many abuses which obtain in commercial circles. The real comprador is a cashier, handles all money received by a firm and makes all payments. In many foreign business houses bills are paid by the representative of the business office in an order on the comprador of the firm, and this order is banked as a bank check or draft. All servants are engaged by the comprador of the firm and he is responsible for them. In short, there is no limit to what a comprador does not do under the present way of doing things in China. Writing of this system, Consul Anderson says:

The system has a good many points which commend it and some which do not. Under the Chinese method a comprador who brought a dealer patronage would receive a percentage of the profits of all sales made to the comprador's firm. Following out the same princi-

ple, the comprador receives a percentage of the wages paid all Chinese employees. Formerly this system of commission was carried on without the knowledge, or at least without the connivance of the business firm, and in many cases it is in vogue at present. Gradually, however, things have so developed that this percentage system is recognized as a means of paying the comprador a portion of his salary, and with most business houses in China the only arrangement made is to see to it that the commission taken is reasonable in amount. Compradors nowadays are engaged only upon contracts, generally in writing, in which certain commissions are fixed, and for the faithful performance of all engagements made the comprador gives bond. The comprador of a tea firm, for instance, will receive a certain commission, as wages, on each box of tea the firm buys. I know of one firm which pays 50 cents Mexican (about 23 cents gold) to its comprador for every chest of tea he buys for the firm in the tea season. Silk firms pay on the basis of a certain sum for each unit of silk bought.

PROFITS OF THE COMPRADOR.

The particular evil of this phase of the system is not so much in this seeming tax upon all articles thus purchased in China, for the commission is in reality payment for services which would be a part of the cost of the article if they were paid for in some other manner, but in the fact that there is abundant evidence that most compradors not only take a commission from the firm for which they buy, but also take commissions from the man from whom they buy. A higher price is therefore paid for the goods bought than the situation warrants, and all the subsequent transactions in that commodity are based upon a fictitious value for which the consumer in due time must pay. Examples of the evil of this phase of the system might be given without number. The comprador of a foreign bank, for example, has charge of loans to Chinese. Generally he is responsible to the bank for such loans, and, at all events, his approval is necessary for a Chinese to negotiate a loan, no matter what security may be offered. The result is that advantage is often taken of the distress of a Chinese borrower, and by reason of his being forced to secure money within a certain time upon a loan he is compelled by the comprador to pay so large a commission or so great a rate of interest over and above that paid to the bank that the transaction is little better than ordinary highway robbery.

DETRIMENTAL TO BUSINESS.

No one but the comprador secures benefit from the system under such circumstances. Legitimate banking is injured, legitimate borrowing is made onerous, and there is no doubt that many commendable enterprises in China are held back by just such methods on the part of Chinese who are in a position to benefit themselves at the expense of their fellows. Giving such power to agents of this sort now and then works to the disadvantage of the business house involved, as well as to others. A law suit of great importance and of far reaching effect on the business circles of China was tried at Hankau in the British consular court within the past few months arising out of the fact that a comprador who became insolvent left the employ or "chop" of one of the large foreign banking houses in China having a branch house at Hankau for the sake of using the

were spurious. The Chinese holders of the paper brought suit to hold the bank good for the acts of its agent under such circumstances. The decision of the case was held in abeyance; a modus vivendi was arranged by which the comprador's property was made to go as far as possible in liquidating the claims, and the banks made provision for better protection of the public against such abuses in the future. In all the business circles of the East there is a constant danger of fraud on the public or upon the business houses concerned, arising from the acts of compradors, which are unauthorized so far as the firms are concerned, but which seem to come within the comprador's authority so far as the public is concerned. While the public can protect itself by always insisting upon knowing the exact limit of the comprador's authority, it is evident that such a course would be a continual break upon the smooth course of business.

SYSTEM MUST BE STUDIED.

American firms dealing with the Far East need to cultivate the compradors. The system is a development, and it probably has come to stay. It will be modified as business methods in the East are modified, and the more the Chinese become acquainted with foreign ways and with the English language the less force will this system have in Asiatic business. But for some time to come the compradors will be the arbiters between foreign goods and Chinese consumers, between Chinese buyers and foreign sellers, between Chinese debtors and foreign creditors. If a comprador of a firm in China representing American interests says that certain goods will not do, the goods might as well be changed at once and without argument. The average comprador of the average first-class house in the Far East is a business man of more than ordinary ability, with acumen, experience, and good judgment. Where making money for his firm is making money for himself, as is generally the case, he is reasonably certain to know what can and what can not be done. As a rule he will be found eminently practical, devoid of wild schemes, having knowledge of the Chinese such as only a Chinese person can have, and generally as well versed in the foibles of the Anglo-Saxon as he is in those of his own race. He is a factor in the trade of the Far East which can not be ignored.

MANCHURIA.

POPULARITY OF AMERICAN COTTON AND OTHER GOODS.

Consul-General Sammons, of Niuchwang, furnishes an interesting report regarding the commerce and agriculture of Manchuria. He says:

American goods in Manchuria are sold on their merits. American cotton goods are the best in the market; so is the kerosene oil, and hence the large sales. America sells more to and Japan buys more from Manchuria than any other nation. Chinese consumers say American cotton goods are not made for looks or show. On the other hand, some of the Chinese and Japanese goods in a similar line are found to be a sort of imitation of the American product, and this adds to the popularity of the fabrics that will wear. At the same time, however, the Japanese and Chinese methods of manufacture are improving.

This fact must be kept in mind in considering future business. In the Far East, as elsewhere where there is an open market, the consumer is looking for the best bargains.

The Chinese of northern China are very much like those of southern China—they are careful, close buyers. They will buy to the best advantage, provided there are no restrictions placed upon trade. One of the largest dealers in American cotton goods here or elsewhere in the Orient informs me that the manner of wrapping a bale of cotton goods may decide its sale, quality being equal or almost equal. For instance, if the Chinaman who buys the bale observes that in wrapping it the manufacturer or packer has put in plenty of covering he may purchase that particular bale in preference to another stock which has been wrapped in a manner that will give the man who breaks the package but a very slight "squeeze" in the way of coarse cloth wrapper.

NO BOYCOTT ON AMERICAN GOODS.

The American cotton goods sold here are handled through Shanghai almost entirely, and therefore the movement to boycott American goods on account of our treaty relations has been felt in this port in two ways: The strongest influences originated with Shanghai parties and were largely beyond the control of local, Niuchwang, counteracting arguments. Other influences were of local origin, resulting mostly from Tientsin newspaper agitation. Several meetings were called for the purpose of securing united action among Niuchwang merchants in opposition to American goods, but in all instances leading Chinese merchants, who had expressed favorable opinions regarding those articles of American manufacture that are sold here, were present. They strongly opposed any agitation, and although the Chinese circulars issued on these occasions, and originating in Shanghai, called for some immediate and positive action, no organized movement in the nature of a boycott has followed. Many leading Chinese merchants state positively that no boycott on American goods will be sanctioned by them, and that the anti-American agitation will die out. While it is true that few, if any, of the northern Chinamen seek to migrate to America, the major part of the aggressive Chinese merchants in northern China come from southern China, and, therefore, it is, presumably, easier than otherwise would be the case to enlist their sympathies in a movement originating among their former friends or acquaintances. Briefly stated, the American cotton fabrics sold here are in the lead, because the purchasers find them the best the market affords.

ACTIVE COMPETITION BY JAPAN AND CHINA.

It is noticeable that the cotton goods that may yet enter into active competition with the American article—viz, the Japanese and Chinese products—are improving in quality. Therefore with better methods and greater skill in Japan, and with the Chinese cotton mills free from the obstacles that have heretofore crippled them, the American manufacturer will have to be alert. When the Chinese cotton mills started it was predicted that they would eventually supply the needs of the oriental market. The Chinese cotton producers, in resorting to various methods of squeezing, virtually killed the goose before it began laying golden eggs. They attempted to obtain high

prices by cornering methods, they utilized unfair methods in attempting to increase the weight of the bale, and such methods, coupled with the fact that the Chinese cotton product did not equal that of the United States, crippled the industry in China, at least temporarily. Now, however, these defects and obstacles are being removed, some Japanese manufacturers are becoming interested in the Chinese mills, better methods prevail, and with markets favorable and friendly to the oriental product the outsider will necessarily have to offer, in due time, additional inducements.

OIL AND OTHER AMERICAN PRODUCTS.

With the Russians removed from this market, the American kerosene oil has a practically clear field. For a time during Russian occupation the American product was threatened through influences that were brought to bear on the local trade in favor of the Russian product. With oil coming without breaking cargo direct from Philadelphia to Niuchwang, the unprecedented receipts of 1904 will be outdone, and the oils of eastern Asia will have little chance to compete with the American product. American lumber, canned goods, flour, cigarettes, sewing machines, and cooking and heating stoves find a market in Manchuria, and the demand at present for these and similar articles is steady and continuous in a limited way.

MINES AND MINING.

It is known that there are valuable mineral deposits in Manchuria. Coal has been mined for several years in a primitive way, and the operations of the Russians in this direction attracted attention near Mukden. Gold, both in quartz and placer, is found, as is copper, silver, and other minerals. But just what the field offers in the way of practical mining possibilities is, as yet, subject to careful investigation. Many agree, however, that Manchuria is one vast field of mines and rich farming and grazing lands. Indeed, some of the samples of ore promise fabulous results, but as a rule the question entering into the operation of, and as yet, indeed, the securing of title to, good properties are indefinite and too nebulous at this particular time to prove attractive to capital. With war at an end and ample and well-defined government regulations in force the exploitation of mining enterprises in Manchuria will be open to serious examination. The indications, or "croppings," certainly warrant thorough prospecting of undeveloped properties and expert opinions where capital seeks investment in mines that have a right to be called such. Manifestly all matters pertaining to the development of mining properties are practically at a standstill in Manchuria. In many parts of China, as well as in various countries of the world, there exists a belief that the mineral deposits of Manchuria are fabulously rich. This belief may, in part, be accounted for by the popular idea that an unknown mineral or gold district possesses great wealth.

AWAIT TERMINATION OF WAR.

Previous to the present war several coal and a number of gold quartz prospects held out inviting inducements, although the Chinese in a primitive way have for years been taking gold out of the

country. But, as a rule, there has been comparatively little thoroughly scientific prospecting or investigation. With favorable conditions following the war the mineral resources of Manchuria will no doubt warrant thorough prospecting; without favorable conditions foreign capital will very likely proceed with great caution. Applications for mining concessions covering apparently valuable areas in eastern Manchuria have been put aside for the time being, for one reason and another, but in the main on account of the war. The natives are doing some prospecting, mining, and development work in Manchuria, but foreigners are not thus engaged, and, as pointed out above, nothing will be done until the present unsettled condition is at an end. The war has temporarily at least paralyzed mining enterprises. Under what conditions they may be revived remains to be seen. However, in concluding this subject, it may be said the samples of ore exhibited at Niuchwang and elsewhere in Manchuria indicate the presence of highly valuable deposits in the various minerals, with several, such as iron, coal, and copper, in similar districts covering wide areas.

Galena ores recently assayed, show, for instance, 1.14 ounces in gold and 1.18 ounces in silver per ton. Various quartz samples assayed showed an average of 0.54 ounce in gold and as high as 1.25 ounces in silver. Most of the coal has an abundance of slate and ash, although coal of a quality without superior in the Far East has for years been mined in a small way in the Liao Peninsular district. Twenty years ago, for instance, foreign residents of Niuchwang bought their winter's coal supply from the but partially developed mines of Manchuria. Some of these mines have been filled with water and others have been temporarily abandoned. This coming winter it is probable the bulk of the Manchurian coal supply for domestic purposes will come from Japan or elsewhere in the Far East, and the price to be paid will be in the neighborhood of $16 Mexican, or $8 gold per ton.

FARM MACHINERY WANTED.

Very little American farm machinery or wagons or, in fact, modern machinery of any kind aside from that used in connection with the railroad building, has been brought into this part of China. As a rule interested parties who have been approached, including Chinese merchants who may be able to introduce and market American farm machinery later on, favor the sending of samples or, at least, price lists combined with pictures of the goods to be sold. The threadbare suggestion that American houses send traveling representatives, or drummers, is made here as it is elsewhere in the Far East. The employment of special agents by several lumber dealers has been attended with good results.

If mining proves inviting to capital in Manchuria, large quantities of mining machinery will be required. If it is possible to introduce American agricultural methods, farm implements will be in demand. But, as indicated at the outset, the future is problematical. All indications, however, point to extensive business development following peace and a strong Government control and the continuance of the open-door policy. In this connection it is noticeable here, as it is elsewhere in China, that the American policy of the unquestioned integrity of the Chinese Empire has a beneficial and important effect upon commercial relations, in that it gives a feeling of security and promises safety and protection for the legitimate investor.

TEN YEARS WAR AND INCREASING BUSINESS.

For ten years Manchuria has been suffering from military convulsions, coupled with a season or two of plague and an occasional flood, and yet its chief seaport, Niuchwang, has been steadily increasing its business. Originally, as far back as 1866, the Shanhaikwan Taotai, residing in the extreme southwestern corner of Manchuria where the great wall meets the sea, came to Niuchwang to restore order and drive out pirates and highway robbers, and his followers to this day are engaged in the same effort. No later than on Friday, June 30, 1905, two Chinamen were beheaded in Niuchwang, one for highway robbery and the other for piracy. It is a fact, however, that Niuchwang is to-day a well regulated city, as Chinese cities go, and that the Japanese control effectively without the usual degree of opposition that frequently befalls those governing in a foreign land. While, in effect, the native city may be said to be under martial law business is practically uninterrupted. Business with the interior, of course, is suffering as one of the consequences of the war.

EMIGRATION FROM CHINA.

Returning from this digression to trade prospects, it may be pointed out that until the wars of recent years large numbers of Chinese were steadily migrating to Manchuria, and, in fact, a few are now arriving from the Hankau section, on the Yangtze River, bound for Mukden. In former years this movement of the natives to Manchuria was followed by large tracts of rich agricultural lands being thrown open to settlement on favorable terms. In natural process, therefore, the Chinese, numerically speaking, "took Manchuria." In the first instance the Manchus "took China," and in turn the Chinese have taken Manchu-land. The Manchus are not numerous in Manchuria. They and their descendants have been scattered throughout China in various ways, principally in garrisons. Their native land furnishes a desirable place for the Chinese of the crowded sections of China to migrate to, and under normal conditions they will, no doubt, continue to come in large numbers.

EXPLOSIVE MINES A MENACE.

Explosive mines and shells have hampered both shipping and agricultural pursuits alike in Manchuria. In consequence of the floating mines in the waters traversed by steamers bound for the port of Niuchwang, freight and insurance rates have been raised and vessels have been delayed by the necessity of anchoring at night. With every precaution several steamers have been blown up or damaged. And although reports have been sent out to the effect that the mines did not exist, many have actually been destroyed since steamers have been provided by the Chinese Government with Hotchkiss 1-pounder guns for that purpose. On a recent voyage of the steamer *Kwang Se* a floating mine was sighted near North Head, on the route to Niuchwang. The Chinese gunner shot five times before hitting the mine, although it was only 150 yards distant. On hitting it a deafening explosion followed. A great mass of water, streaked with flames, mostly blue in color, was thrown 150 feet into the air. Pieces of the mine came down

upon the deck of the *Kwang Se*, severely injuring a Chinaman. A piece of the steel frame of the mine, still hot, fell beside one of the woman passengers. Fortunately a snapshot of the explosion was secured by Chief Engineer C. McKendrick, of the *Kwang Se*, and an enlarged copy thereof is forwarded with this report. Most of the floating mines have now been blown up or otherwise demolished, and shipping is comparatively free from this danger. The precaution of anchoring at night, however, is still kept up.

On land, however, there are unexploded shells as well as other explosives to endanger the lives and property of the native farmer. The point of the plow striking explosives has caused numerous accidents and deaths, and reports from the farming sections are decidedly discouraging. In many cases houses have been burned and farm animals pressed into service during the war. Many fields are uncultivated and in numerous instances where an attempt is being made to cultivate and plow injuries have resulted from coming into contact with explosives.

The International Red Cross managers received reports early in July of a deplorable state of affairs in the districts between Liao Yang and Mukden. As foreigners, including missionaries, are not permitted to move about throughout the war zone, the Red Cross managers hope to arrange with the Japanese to relieve the distressed condition of the natives, many of whom are reported to be without houses and farmers unable to cultivate their fields and with little prospect for food during the coming winter. At Mar Chia-ling, Su Ma-pu, Hei Hou-tai, and Ku Cheng-tze, in particular, the natives are reported in need of relief. For this purpose the Central Red Cross Association at Shanghai has been asked for $50,000 gold.

FUTURE PROSPECTS BRIGHT.

Considering the prosperity of Manchuria under unsettled and unfavorable conditions of the past, it seems decidedly conservative to predict enormous trade possibilities in the future under peaceful conditions and strong, stable government control, and no trade restrictions. To encourage commercial development to the fullest degree the governing and police power will necessarily have to control or crush out with a firm hand the lawless element that has been a menace to the thrifty Chinese farmers and merchants of the interior. It has been customary for many years for those transporting merchandise and supplies to purchase immunity from the robbers of the interior by paying the price to their accredited representatives. Thus could a sort of insurance policy against highway robbery be taken out with practical certainty, too, of its conditions being observed.

With a large area of the country under military occupation, and with no positive knowledge as to what the future has in store, it is no wonder interior trade conditions of Manchuria within the war zone are unsettled or that Niuchwang finds herself congested with goods intended for internal supply. The products of the interior, however, have, no doubt, to a degree, been disposed of to the belligerents, thus, to some extent at least, relieving the situation. Outside of the war zone, crops, on account of plentiful rains, are as a rule reported good. In some instances the soil is yielding bountifully and the people are correspondingly contented. The disquieting effects of war are felt, generally speaking, throughout Manchuria.

AMERICAN LUMBER DIRECT TO NIUCHWANG.

The first American sailing vessel to enter Niuchwang arrived April 22. The vessel is a five-masted schooner named *Crescent*, and she carried 1,585,899 feet of lumber from Blakely, Wash., which lumber is known locally as Oregon pine. The *Crescent* reached Niuchwang by way of Taku. The voyage occupied seventy days from Puget Sound to the Bay of Pechili. The *Crescent's* registered tonnage is 1,334 tons. Having a draft of 21 feet, the schooner was obliged to lighten cargo in order to cross the bar at the entrance of Liao River. She was drawing 21 feet, and when lightened to 19 feet, sailed inside the bar and was towed to Niuchwang.

The consul says that as a rule American goods reach Niuchwang via Japanese or Chinese ports, although vessels drawing from 16 to 19 feet according to the season, can cross the bar with safety, and once inside the bar there is ample depth of water to the docks or anchorage at Niuchwang.

As a rule, goods shipped direct arrive in much better condition than when subjected to handling and reshipment through other ports. This season the Standard Oil Company will send three cargoes of kerosene oil direct to Niuchwang from Philadelphia via the Suez Canal.

JAPAN.

REMARKABLE INCREASE IN IMPORTATIONS.

A statement issued by the Bureau of Statistics, Department of Commerce and Labor, shows remarkable growth in Japan's commerce for the first six months of the calendar year. The imports for that period aggregate $142,659,000, an increase of nearly 60 per cent compared with the same months of 1904, while the exports show an increase of 4 per cent. This slight increase in exports is not without significance when the prevalence of a devastating war is considered.

The report in question shows that while the largest increases in imports are credited to the United States, the United Kingdom, and British India, the largest increases in exports occur under the head of China, United States, and Korea. Thus, imports from the United States for the first six months of 1905 were $31,921,000, as against $13,328,000 during the same period of 1904; imports from the United Kingdom were $32,623,000, as against $16,982,000; from British India, $34,034,000, as against $21,092,000; while imports from Germany are stated as $10,794,000 for the first six months of this year, as against $6,985,000 for the same period of 1904. As regards imports from other countries, they have increased at a much lower rate or else show decreases.

The exports during the same periods were largest for China, which is credited with $21,932,000, as compared with $14,953,000 during the first six months of 1904. The United States ranks next among the countries to which Japanese products are destined, the figures for the first six months of 1905 being $20,304,000, as against $19,910,000 for the previous year. In the third place now stands Korea, with $5,852,000, as against $3,840,000 for the same period of 1904. The

exports to the other countries are relatively small and, moreover, show decreases. Thus, exports to France, one of Japan's large customers of silk, have fallen from $7,117,000 during 1904 to $5,401,000 during 1905. The exports to the United Kingdom have likewise decreased from $4,343,000 to $3,335,000, while exports to Germany have fallen from $1,098,000 in 1904 to $1,045,000 in 1905.

LEADING POSITION OF THE UNITED STATES.

The leading position of the United States in Japanese foreign commerce is seen from the fact that this country furnished 22.4 per cent of the total imports during the first six months of 1905, as compared with 14.7 per cent of the total imports during the same period of 1904, and is credited with 28.6 per cent of the total domestic exports, as compared with 29.1 per cent of the total domestic exports for 1904.

The gains in imports affect not only such articles increased consumption of which was to be expected because of the war, such as flour, beans, and pease, woolens and worsteds, cotton manufactures, blankets, sole leather, etc., but other articles as well, increased importations of which are the best sign of industrial growth and expansion. Among the latter the most notable increases are shown by raw cotton, the imports of which have almost doubled in value, and by manufactures of iron and steel machinery, etc.

The only articles of importance the imports of which show decreases are coal, sugar, and kerosene oil. The decrease in sugar is most striking, and is probably due chiefly to the higher import duties imposed last year, the results of which are seen in extraordinarily heavy importations during 1904.

The two largest items of importation appear to be raw cotton, about one-third of which is credited to the United States, and rice, the importations of which assumed large proportions for the first time in 1903, and continue to lead all other items, with the exception of raw cotton. About 38 per cent of the total imports during the first half of the present year is represented by the imports of the two items last named.

PRINCIPAL ARTICLES IMPORTED.

The following table shows the value of some of the principal articles imported during the first six months of the calendar years 1904 and 1905, with the amounts of increase or decrease:

Articles.	1904.	1905.	Increase.
Cotton, raw	$17,810,000	$34,221,000	$16,411,000
Cotton, manufactured	1,124,000	4,005,000	2,881,000
Woolen and worsted cloths, including cloth mixed with cotton	262,000	5,476,000	5,214,000
Blankets	28,000	1,618,000	1,590,000
Leather, sole and other	530,000	3,808,000	3,278,000
Flour	2,522,000	2,857,000	335,000
Oil cake	728,000	3,033,000	2,305,000
Beans, pease, and pulse	1,501,000	2,479,000	978,000
Rice	17,561,000	19,872,000	2,311,000
Machinery	2,368,000	6,083,000	3,715,000
Iron and steel, n. e. s.	5,182,000	9,707,000	4,525,000
Coal	3,740,000	2,701,000	a1,039,000
Sugar	6,734,000	2,490,000	a4,244,000
Oil, kerosene	4,619,000	4,601,000	a18,000
All other	26,243,000	39,708,000	13,465,000
Total imports	90,952,000	142,659,000	51,707,000

a Decrease.

INCREASED EXPORT OF COTTON GOODS.

Of the principal articles of export, raw silk has held its own, while the manufactures of silk show a decrease. Exports of both cotton yarn and cotton manufactures show larger figures for the first six months of the current year than for the same period of the year before. The same is true of copper, matches, mats and matting, porcelain and earthenware, and many other smaller items of Japanese produce and manufacture, too numerous to be stated specifically. The largest relative increase is shown by the exports of beer and sake (rice whisky), which have increased about 178 and 264 per cent, respectively, during the present year. Decreases of exports for the first six months of the current year appear under the head of coal, tea, rice, camphor, straw plaits, cigarettes, sulphur, etc. The following table shows the exports from Japan of the principal articles during the first six months of the calendar years 1904 and 1905:

Articles.	1904.	1905.	Increase.
Silk, raw	$14,012,000	$14,042,000	$30,000
Silk, noshi and waste	1,140,000	1,549,000	409,000
Silk, manufactures of	10,380,000	8,433,000	a 1,947,000
Cotton, yarn	6,778,000	8,359,000	1,581,000
Cotton, manufactured	1,969,000	2,138,000	169,000
Copper, coarse and refined	2,932,000	3,270,000	338,000
Matches	2,368,000	2,589,000	221,000
Mats and matting	1,001,000	1,179,000	178,000
Porcelain and earthenware	807,000	1,118,000	311,000
Beer	151,000	418,000	267,000
Sake	321,000	1,168,000	847,000
Coal	4,143,000	3,851,000	a 292,000
Straw plaits	1,279,000	997,000	a 282,000
Cigarettes	919,000	777,000	a 142,000
Tea	2,867,000	1,999,000	a 868,000
Camphor	973,000	735,000	a 238,000
Rice	1,768,000	802,000	a 966,000
All other	14,650,000	17,674,000	3,024,000
Total exports	68,458,000	71,098,000	2,640,000

a Decrease.

PROSPECTIVE MARKET FOR AMERICAN FISH.

PRODUCTS FOR WHICH A MARKET EXISTS.

The Bureau of Fisheries, Department of Commerce and Labor, has issued an interesting bulletin regarding the promotion of fishery trade between the United States and Japan. Both countries, it appears, are so well supplied with fishery products of all kinds that they are largely independent in this respect, and the possibilty of building up an extensive fishery trade between them is quite remote. It is believed, however, that there are opportunities for establishing mutual beneficial trade in special products. Fish is the only animal food that enters into the dietary of a very large proportion of the population of Japan. In a total population of 50,000,000 it is stated that 3,000,000 are engaged in the fish industry, and fully 10,000,000 men, women, and children are directly dependent on it. A large part of the catch is sold fresh, but considerable quantities of certain species are smoked, dried, salted, canned, and otherwise prepared.

The establishment of a satisfactory export trade with Japan in fishery products depends chiefly on the cheapness of the product, and on their

adaptation to the peculiar needs and ideas of the people. It would be futile to send high-priced goods, because the masses can not afford to pay for them, and it would be equally futile to attempt to force the Japanese to surrender their tastes and long-established customs and adopt fishery foods prepared according to Western ideas.

The bulletin states the following as some of the products for which a ready market exists in Japan, and which it will be profitable to export:

"*Fish guano.*—The comparatively small percentage of arable land and the immense agricultural population necessitate the raising of a succession of crops. The continued use of large quantities of fertilizer is required. City refuse, fish, seaweed, straw, grass, brush, and various other things are employed, and a fertilizer made from soy-bean refuse is now imported from China. There exists a very large and constant demand for a cheap, dry fish guano, such as may be made from waste fish or the refuse of canneries.

"*Canned fish.*—There is as yet no great demand among the Japanese for canned fish, owing to the abundance, availability, and cheapness of fresh fish. As the people become better acquainted with the tinned product, it is probable that the demand will be supplied chiefly by local canneries, which are already putting up an excellent grade of sardines, anchovies, etc. The canned fish prepared in America which seems most likely to be in demand in Japan is salmon. The American Asiatic, in the issue of April 7, 1903, stated: 'Every cargo now shows canned salmon moving to the Orient. A year ago such a movement was unknown. Salmon is now selling in the Orient as California canned fruits sold in Europe when they began to be exhibited there.' The shipments of canned salmon to Japan, however, are comparatively light, and are destined mostly for consumption among foreign residents there. This product, to meet with ready sale among the natives, must be low priced, retailing at not more than 7½ or 10 cents per 1-pound can. Dog, humpback, and silver salmon could be most advantageously canned for the Japanese trade.

"*Salted salmon.*—It is believed that the fishery product in which there are the best prospects for establishing a profitable trade is salted salmon. The local catch is not sufficient to meet the demand and the supply is decreasing. Small quantities of salted salmon are now imported from the United States, Canada, and Asiatic Russia. Dog salmon and other cheap species of Alaska and the Pacific States would find a ready market if properly prepared; dog salmon is the principal species utilized in Japan. The fish should be split along the abdomen as far as the vent, eviscerated, and lightly salted with the abdomen compressed laterally, not spread, the head being left on. The salting should be so regulated as to leave the fish soft and flexible, not hard and stiff. The best time to ship is November and December, as the greatest demand comes in the latter part of December—dry-salted salmon being very generally given as end-of-the-year and new-year presents. A 10-pound dog salmon now retails for 35 to 50 cents. The value of the imports of salted salmon and trout into Japan in 1902 was $1,005,744, of which only $101,329 came from the United States.

"*Seaweeds.*—Pending the time when the valuable seaweeds now going to waste on the United States coasts will be utilized in various ways, it may be possible to market large quantities of the raw weeds in

Japan, where seaweeds are among the most valuable and most widely used of water products. Those species which are convertible into vegetable isinglass and into the preparation used for stiffening fabrics are in greatest demand and command high prices. The best markets are Tokyo and Osaka.

"The products which the Japanese would like to export to the United States are salted bull's-eye mackerel, salted herring, salted and canned sardines, salted cod, smoked bonito, and various preparations of seaweed. In view of the large quantities of salted mackerel, salted herring, and canned sardines now imported into the United States from Europe, the importation of considerable quantities of these commodities from Japan could be undertaken without detriment to our own fisheries."

RAILWAY CONDITIONS AND EARNINGS.

A writer in the Anglo-Japanese Gazette of June, 1905, says that English investors were willing to lend money to private-owned railways in Japan; but, he adds, legal difficulties stood in the way of mortgaging those properties. A law, just promulgated, removes this objection. Under the new law railways, factories, and mines may be mortgaged. This means that if a railway, factory, or mine has to be taken to satisfy a debt it can be operated at once as a working property. Thus, just as much safety is secured on Japanese railroads as on other foreign lines. This opens up a practically virgin field for investments in a progressive country.

The growth of private lines in Japan and their borrowing powers are indicated by the fact that in 1894 their paid-up capital was about $29,000,000; debentures, $2,800,000; borrowing powers, about $26,000,0000. In 1903 they were: Paid-up capital, over $101,361,000; debentures, about $9,000,000; borrowing powers, $94,960,000.

The traffic mileage of these roads in 1902 was 3,007 miles. They cost about $35,000 a mile. Of the total cost, over $101,000,000, nearly $95,000,000 was derived from money paid in, leaving about $6,000,000 to be borrowed. In other words, these lines are now in a position to borrow about $94,000,000 on properties on which that much has been paid—properties that are running and earning money.

The mileage of the State lines in 1902 was 1,226; cost, about $60,000,000, or nearly $50,000 a mile, including large sums spent upon extensive workshops and extras.

EARNINGS OF THE STATE LINES.

The earnings of the State railways of Japan in 1904 were:

Gross	$8,923,213
Working expenses	4,411,968
Net earnings	4,511,245

Or about 7.4 per cent on capital invested. Thus the State lines have ample value for $75,000,000, but by the new law may not be mortgaged for more than about $60,000,000. In the year indicated the 41 private roads earned 8 per cent, or $16,226,857; gross earnings—working expenses—$7,833,730; net earnings, $8,343,657. In other words, Japan is earning 8 per cent on all the capital invested in her railroads, public and private; a remarkable showing, one not often surpassed

even in the United States, with its wonderful movements of trade. The expenses per mile were: Public roads, $3,600; private, $4,087.

INCREASE OF COASTWISE SHIPPING.

Consul Anderson, of Amoy, directs attention to the fact that periodicals in Great Britain devoted to commercial interests are discussing the increase of Japanese shipping in the Chinese coast trade as well as in trans-Pacific trade. There is abundant evidence that the Japanese Government is working energetically and persistently to build up Japanese shipping interests. The fact that a certain Japanese nobleman established a shipyard in one of the Japanese ports to give the nation a start in that direction indicates the general spirit with which the upbuilding of the Japanese merchant marine is being undertaken.

In this connection it is worth while to note that a London publication reports that during the past few weeks in the English metropolis there have been a very large number of merchant vessels sold to Eastern buyers, and every week has increased the total of steamers so disposed of. After these boats have sailed for the East the fact is generally disclosed that the buyer is a Japanese firm. A list of 27 vessels, between 573 tons and 2,600 tons, is given in the Pall Mall Gazette. When it is considered that the Japanese have acquired a very respectable mercantile fleet of nearly thirty first-class steamers from blockade runners captured on the way to Vladivostok, it may be realized that Japanese acquisition of shipping is considerable. The vessels are nearly all old iron steamers built in the eighties, and shipping men say that as iron lasts better than steel, they still have a lot of wear in them.

There seems to be a general understanding that the close of the war between Russia and Japan will witness the inauguration of an agressive campaign on the part of Japanese shipping interests for trans-Pacific business. They will most assuredly have a very large if not a predominant part in Chinese coast shipping.

JAPAN'S FINANCIAL RESOURCES.

According to the Japanese Gazette of June, 1905, Japan is showing as remarkable progress in her scientific methods of gathering and arranging statistics as she is in manipulating her armies and navies. The department of finance has just issued an Annual that the Gazette thinks is a model treatise. In its pages is found a statement of Japan's revenue for the last fiscal year. It was a trifle less than $150,000,000 against $37,500,000 in 1883–84. In the corresponding period the national debt went up from $115,000,000 to $725,000,000. The number of public companies during the nine years ending with 1903 increased from 4,000 to 9,000.

The Annual deals with finance, agriculture, industry and commerce, foreign trade, banking and money market, etc., and shows a striking record of progress in each. It shows that the present war cost $675,908,185, met by public loans and various funds, etc. The financial scheme followed in connection with the war provides for the expenditure with the normal surplus of special funds, extraordinary taxes, and public loans. The receipts for this fiscal year will amount to about $75,000,000, representing the total special taxes to be taken up in connection with the war.

Owing to the reduction of local taxes, curtailment of local expenditures, and national thrift the Japanese will be able to bear the increased burdens without any inconvenience. The minister of finance says the nation has in no way suffered from the evil effects usually inseparable from war; on the contrary, the economic conditions of the country have been remarkably favorable.

EFFECTS OF THE WAR.

The Birmingham (England) Mail of July 28 contains the following paragraphs on the effects of the war on Japan:

Of late all the consular reports relating to ports and towns in Russia and Japan have recorded loss of trade because of the war, but our consul at Nagasaki, Mr. F. W. W. Playfair, has a still more doleful tale to relate of his district.

Trade and Japanese and Russian shipping, he says, have been seriously affected by the war, and this has not been made good by the increase in British and Norwegian shipping. In the country districts, while the people apparently pursue their ordinary avocations as though no such thing as war existed, the Japanese business men of the open ports are "hard hit" by the extra burdens of taxation consequent on the war expenditure and by the dislocation of Japanese shipping owing to the requisition of many transports. The war, too, has killed more than half of the usual tourist traffic of the last few years. Fears of the Vladivostok fleet and of submarine mines drifted from their anchorage have kept many timid tourists from visiting Japan, and although some improvement has been noticeable of late, still the number appears to be a good deal below the average. Increased taxation also has tended so to raise prices all round that Japan is becoming too expensive a place for the ordinary tourist to visit.

INCREASE IN PUBLIC SCHOOLS.

The Frankfurter Zeitung, in a letter from Tokyo, publishes interesting data on education in Japan from the official "White Book.

The number of public schools in Japan is at present 27,138, in which 5,084,099 children are taught by 108,360 teachers; 93.23 per cent of all the children of school age went to these schools. In 1873, 29 per cent of school-age children went to the public schools; in 1883, 51 per cent, and in 1893, 59 per cent. A rapid increase in attendance is noted after the Chinese war. The percentage of attendance of boys compared with that of girls was 40 to 15 in 1873; the difference now is only 7 per cent. The attendance at the various commercial and industrial schools was as follows: In 1901, 36,000; in 1902, 95,000—i. e., only 2,000 less than the number in the intermediate schools. The university for women held its commencement exercises recently, 86 graduates receiving the so-called academy diploma and 132 the university diploma. Of those receiving the university diploma 73 had studied housekeeping, 45 national literature, and 14 belonged to the "English" faculty. This university was founded for the purpose of educating women to be good wives and mothers.

TRADE OF FORMOSA.

Consul Fisher, of Tamsui, furnishes figures of Formosan trade returns for 1903 and 1904. The total commerce for 1904 was

$22,816,958, against $21,301,920 for 1903, almost equally divided between exports and imports. The figures are shown in the following table in United States currency:

	With foreign countries.		With Japan.	
	1903.	1904.	1903.	1904.
Exports	$5,517,004	$6,170,780	$4,845,271	$5,194,791
Imports	5,364,641	6,393,544	5,575,004	5,057,843
Total	10,881,645	12,564,324	10,420,275	10,252,634

The principal feature which distinguishes the total export trade of 1904 from that of 1903 is the increase in the amount of sugar exported to Japan. The exportation of tea shows a decrease of 5 per cent, which is practically balanced by the increase in that of rice. The other items of export in which increases are noticeable are mostly comestibles exported to China.

The exports consisted principally of rice, tea, sugar, camphor, camphor oil, and China grass. The imports were opium, kerosene oil, sugar, timbers, leaf tobacco, cottons, sateens, shirtings, and rice flour. Many of these show remarkable gains. The following table tells the story of the island's imports, by countries, for 1904, and gives gain or loss:

From—	Value.	Increase (+) or decrease (−).	From—	Value.	Increase (+) or decrease (−).
		Per cent.			*Per cent.*
Japan	$5,057,843	− 9	Dutch India	$23,419	+ 294
China	2,909,527	+ 1½	French India	21,159	− 46
British India	837,590	+ 105	Siam	15,508	− 59
United States	723,119	+ 29	Philippine Islands	13,824	− 6
Great Britain	684,743	− 19	Belgium	13,557	− 50
Hongkong	130,613	− 78	France	6,587	− 43
Germany	92,043	+ 45	Other countries	767,892	.....
Russian Asia	66,706	19			
Australia	58,400	+ 5	Total	11,451,387	+ 5
Korea	28,857	+ 7			

INDIA.

GENERAL TRADE CONDITIONS.

AMERICANS ARE NEGLECTING AN INVITING FIELD.

An American gentleman traveling in foreign countries for the purpose of inquiring into trade conditions with a view of promoting American commerce, has written an interesting letter to the Bureau of Manufactures giving the result of observations in India. The gentleman alluded to has been quoted in previous numbers of Consular and Trade Reports, and has contributed information from European countries and Egypt that has undoubtedly been valuable to American commercial interests. India may be said to form a large portion of the commercial zone embraced in the term "Orient," to which the principal commercial nations are directing their attention and efforts.

India is nearly equal in importance to China as a market for manufactured goods of almost every description, and American enterprise should not neglect the opportunities that are there presented. Following is the letter to which allusion has been made:

General trade conditions in India seem quite as discouraging as in Egypt, and for reasons quite similar, namely, that Americans are making no proper effort to get their share of the trade. The total imports of India in 1904 amounted to $300,000,000, which included $25,000,000 of government stores. Of the amount stated, cotton goods constituted $100,000,000; iron and steel in various forms, $42,000,000; kerosene, $10,000,000; chemicals, drugs, and dyes (chiefly patent medicines), $7,500,000; copper, $7,000,000; clothing, $5,500,000; jewelry, $5,000,000; liquors, $5,000,000; books, $4,000,000; window glass and glassware, $3,500,000; cigarettes, $1,500,000; matches, $1,500,000; and coal, $1,000,000. Thus two-thirds of the entire imports were of classes of articles of which the United States is the largest producer, yet the Indian official statistics show that imports from the United States in 1903, the latest year for which detailed figures are available, were only $4,028,000, as against $5,795,000 in 1890, an actual reduction of nearly $2,000,000 in thirteen years.

The official reports show that in the same thirteen years imports into India from Germany increased over $5,000,000, Austria-Hungary over $6,000,000, Belgium $7,000,000, Russia $8,000,000, while from continental Europe as a whole the imports increased about $32,000,000. Practically all of the exports of continental Europe to India are, with the exception of a small quantity of sugar, of the classes produced in the United States, and many of them are manufactured from raw material supplied from the United States.

NO DISCRIMINATION.

While the fact that India is a British colony suggests that conditions would naturally favor British trade, the fact that India has increased her imports from continental Europe $32,000,000 since 1890 and increased those from the United Kingdom but $12,000,000 at the same time, shows that there is no such discrimination against non-English goods as to offer any excuse for our failure in the Indian market. True, two-thirds of the imports are from the United Kingdom, but in the past thirteen years Great Britain's imports have increased but 8 per cent while those from continental Europe were increasing 250 per cent, hence our own loss of 31 per cent meantime can not be charged to British influence or control, since the same influence would naturally be as strongly adverse to continental European merchandise as it would be against that from the United States.

LACK OF AMERICAN ENTERPRISE.

This increase in the imports of India from continental Europe seems to be due to vigorous business methods on the part of European manufacturers and exporters, and the failure of growth in imports from the United States seems to be due to absence of effort and absolute indifference on the part of our own manufacturers and exporters. The merchant or manufacturer who expects to do business, even in

countries and home markets where the local conditions and requirements are well known, sends out his salesmen or establishes branch houses, or both; and this is the more necessary in attempts to make sales in markets where customs and requirements differ from those of the country in which the goods are manufactured. The Europeans recognize this necessity and have their salesmen and branch houses in all parts of India, and they succeed. The Americans have neither, and they fail.

WIDE AWAKE AMERICAN FIRMS.

Two American concerns, dealers in miscellaneous merchandise—the New York Export Association and the American Import and Export Association—have their salesmen and branch houses in India, and are doing a good business, selling at wholesale to the native dealers as well as others, while Heinz, the pickle and jam manufacturer, has his traveling men in India, and is doing well there. There are a few other instances where manufacturers of specialties (Sen-Sen, Scott's Emulsion, and others) are pushing for business through personal agents or branch houses, or both, and are doing well, but they are very few. Besides this lack of effort to show or sell American goods our dealers and manufacturers demand cash, since they have no way of determining the standing of their customers or assuring themselves that credits will be met, while the Europeans, having their men in the field, can and do give long credits with business safety and success.

I do not think that the failure of American goods or the success of Europeans is at all due to local prejudices on the part of dealer or consumer. I am told by an English dealer that probably 90 per cent of the merchandise imported into India is consumed by natives, and I am also told that fully one-half of the importations are by non-English houses, many of them Parsees, Indians, and other Asiatics, whose trade instincts and habits are probably not controlled by any prejudice in favor of England or the English. I do not find in India the favorable sentiment in behalf of American goods that was noted in Egypt, but I find no adverse sentiment and no adverse laws or regulations.

CHEAPNESS A FACTOR.

Cheapness seems to be an extremely important requisite in the markets of India, more important than quality. This fact is recognized by the people of continental Europe who are constantly increasing their sales in India at the expense of England and the United States. Belgian iron and steel are being furnished at extremely low prices and on long credits, and of rather poor quality, and this is true of the various manufactures sent in by Germany and Austria. The manufacturers and exporters of those countries seem to realize that they must make some temporary sacrifices to build up a trade in India, and they are doing it while the manufacturers and merchants of the United States are making no effort, and therefore gaining no trade, but losing the little they had, and allowing the Europeans to get such a foothold that our prospects of getting into the market are growing less daily.

Of the $100,000,000 of cotton goods imported into India last year the United States, although the chief cotton grower and a large manufacturer, supplied but $500,000. Of the $42,000,000 worth of iron and steel imports we supplied but $1,500,000; of the $10,000,000 worth of mineral oil imported we supplied but about $2,000,000 worth, or

one-third less in value than we supplied ten years ago. Our own imports from India are steadily increasing, while our sales in that market as shown by Indian figures are not only decreasing but are a trifle compared with our purchases from her. The Indian figures of trade with the United States show exports to the United States from 1890 to 1903. $247,000,000; imports from the United States, $61,000,000.

COMMERCE OF INDIA.

In connection with the foregoing the following statement of India's commerce is pertinent:

United States manufacturers should not lose sight of the fact that commercial men in India recognize that the United States is one of the best customers for Indian staples, and that there is increasing disposition to meet American manufacturers more than half way in any efforts made to extend our trade there. The total import trade of India in normal years averages about $250,000,000, while the total exports rarely average much below $400,000,000. Great Britain supplies about 66 per cent of the total imports and takes about 25 per cent of the exports.

The principal exports from India to the United Kingdom are: Tea, $25,000,000; jute, $15,000,000; dressed skins, $6,500,000; wheat, $7,500,000; linseed, $7,000,000; rice, $5,000,000; wool, $3,500,000; jute manufactures, $3,000,000, and coffee, $2,500,000. Of the imports into India from Great Britain the most important is cotton goods, which approximates $87,500,000 per annum. Of iron and steel England supplies $6,500,000; cutlery, $4,000,000; woolen fabrics, $3,500,000. In wearing apparel, manufactures of leather, glass and glassware, and vehicles of various kinds, the prevailing tastes are largely favorable to British styles and products. It is probable that energetic efforts on the part of American manufacturers might result in our getting a foothold in some of the lines mentioned. In the relatively new industries, such as typewriters, cash registers, sewing machines, electrical machinery and supplies, Americans might enter the field with reasonable assurances of success.

Germany is next to Great Britain in sharing in India's trade. The exports to Germany are about $30,000,000 annually, and the imports from that country $6,500,000. The principal items of exports to Germany are jute, raw cotton, raw hides, linseed, grape seed, and til seed, the last being used chiefly in the manufacture of margarine. Beet sugar is the principal commodity imported by India from Germany, which reaches $1,000,000 per annum. Woolen goods to nearly the same value, and hardware and cutlery about $500,000, are also received from Germany.

The United States ranks next to Germany. India exporting to this country about $25,000,000 per annum and importing a little over $4,000,000, according to Indian official returns. Exports to the United States from India consist almost entirely of manufacturers' material, namely, raw skins and hides to the value of $8,000,000; jute manufactures, $7,500,000; raw jute, $3,500,000; lac and tanned skins nearly $2,250,000, and indigo, $800,000. Of the $4,000,000 exported by the United States to India about one-half is petroleum, the remainder being made up of manufactured goods in great variety, but relatively small amounts in each line.

France occupies about the same position in the foreign trade of India as the United States.

TEXTILES THAT SELL.

An English correspondent of the Textile World-Record for August, in the following brief paragraph, furnishes figures showing the extent of Great Britain's textile trade with India and facts regarding the character of goods furnished:

India is Great Britain's customer for $203,000,000 worth of goods per year. Cottons are the chief item in the trade, but woolens are of formidable account. A fact that would-be sellers ought to know is that woolens for India must be finished "smart." Perhaps too much smartness can not be applied, and though much of the business, by reason of its extreme cheapness, may be out of American reach, there are cloths not so remote. Worsteds of tropical weights in the pale greens, blues, purples, fawns, and bastard shades, suitable for South America, are favored also in India. Some Scotch cloths are bought by the white and wealthy population, and there is business in goods for uniforms. Khaki serges are in vogue constantly. Wide widths are sold for suitings and narrow widths (in 9-yard lengths, 100 ends to the bale) are used for "puttees" or helical leggings.

INDUSTRIAL AND AGRICULTURAL EXPOSITION.

Consul-General Patterson, of Calcutta, furnishes a prospectus of the Indian Industrial and Agricultural Exhibition to be held at Benares about the time the Indian Congress meets in that city in December next. It is stated that the exhibition is intended to give an idea of the present condition of Indian industries and agriculture and the possibilities of their future development. It will aim to bring together specimens of the natural products of India and modern appliances by which Indian industries may be improved. Mr. Patterson says there is a large field in India for American agricultural machinery, especially thrashing and winnowing machinery that can be moved from place to place, as the farms in India are small. He believes that the coming exhibition at Benares will afford an excellent opportunity to place harvesting and other machinery before the people of India, and that such exhibition of American appliances will create a market for them.

AMERICAN TRADE CAN BE INCREASED.

A letter received by the Bureau of Manufactures from an American gentleman in Italy describes an interview with an Italian trade commissioner who recently returned from a tour of investigation in the Orient. The Italian commissioner expressed the belief that the United States, with proper effort, could materially increase its sales of cotton goods, manufactures of iron and steel, railway supplies, boots and shoes, mineral oil, etc., in India. To do this, however, the opinion was expressed that manufacturers and merchants should associate themselves and send a representative to India to exhibit samples and solicit orders from dealers there. While a considerable share of the importation is now in the hands of English houses, the people, he thought, would not hesitate to buy from the United States if the goods were shipped direct and prices and terms were satisfactory.

The Germans are making rapid gains in their exports to India, which may be attributed to their persistence in preparing goods in form to suit the local markets. He further said that a part of the growth of German trade in the Orient is due to the fact that a good and reliable steamship service to that part of the world has been established by the Germans and greatly strengthened in recent years. While he thought that regular lines between the United States and India would be almost necessary to the development of any considerable export trade to that country, he suggested that the Italian steamship company now operating a line between Italy and India, with the assistance of the Italian Government, could perhaps extend its service to the United States, so as to give a direct through line from New York to India, touching at Italy en route.

PERSIA.

POSSIBILITIES OF TRADE WITH THE UNITED STATES.

With a view to pointing out the possibilities of the United States securing trade with Persia, Consul Norton, writing from Harput, Turkey, says the import trade of the Province of Azerbaijan for the last fiscal year shows an enormous increase over the year before—fully 32 per cent. The trade of 1903 was 9 per cent less than in 1902. Many goods were held back in 1902–3 to take advantage of the lower specific duties which followed the introduction of the new tariff in February, 1903. Giving this fact its due value, however, it would appear that during the past fiscal year the value of the merchandise imported into Persia has increased to an abnormal degree and that the market must have been largely overstocked. This was undoubtedly the case with cotton textiles, the value of which has doubled in four years. These, with sugar, silk and woolen goods, and tea, constitute the bulk of the Persian import trade, 80 per cent of the total amount.

The respective shares of the leading importing countries and the fluctuations of their trade are shown in the following table:

	1903.	1904.
Russia	$3,105,400	$4,107,500
United Kingdom	793,000	924,000
France	743,200	880,600
Austria-Hungary	654,500	803,200
India (tea, chiefly)	322,100	463,900
Germany	112,000	263,700
Italy	18,700	264,900
Turkey	165,100	200,600
Other countries	106,000	80,600
Total	6,020,000	7,999,000

Russian trade enjoys special advantages in the way of cheap transport and export bounties, as well as by her geographical position of next-door neighbor. It is not to be wondered at that her commerce with Persia grows so rapidly, although there is much of hothouse culture at the base of the apparent prosperity. The most noteworthy feature in the above figures is the phenomenal increase in the trade of Germany and Italy.

COTTON TEXTILES LEAD IMPORTS.

Among the articles imported, cotton textiles lead. Of these, Russia furnished $1,670,000; England, $686,000; France, $239,000; Austria, $41,000; Italy, $185,000; Germany, $30,000. Of the woolen and silk imports, the quotas furnished were as follows:

	Woolens.	Silks.
Great Britain	$155,000	.....
France	214,000	$307,000
Germany	49,000	80,000
Italy	.....	42,000

Natural and artificial factors, says Mr. Norton, favor Russia; but these are helped by railways in Trans-Caucasia, which bring Russian goods by rail close to the Persian frontier. In a short time these roads will reach right up to the frontier.

Even these would not hamper far-off manufacturing countries were they not backed up by five artificial barriers:

(*a*) *Transit charges.*—Russia charges practically prohibitory transit rates on goods going to Persia via the Russian routes. Hence goods have to go by the costly caravans. This is the heaviest handicap borne by foreign trade.

(*b*) *Bounties.*—Russia grants bounties of from 15 to 20 per cent to her manufacturers on goods sent to Persia. In the case of cotton goods the bounties are even higher. Only last year the bounties on cotton went up 2 cents a pound. The imports were double those of the year previous.

Low freights.—Russia grants rebates on her railways on shipments of Russian goods to Persia.

Banks.—Aid is afforded Russians trading in Persia by the Russian bank of Tabriz. It has had much to do with the rapid increase in many lines of Russian products, particularly cottons.

The new tariff.—The old 5 per cent tariff was taken off in February, 1903, to make place for a specific system that was designed to favor Russia.

In spite of all these handicaps, however, England and Germany have struggled hard to hold their own. Just what success they are to have it would be hard to say. In certain fields Russia can not be dislodged. The proximity of the Baku oil wells precludes the possibility of any other producers getting a foothold—at least for a long time—in the Azerbaijan markets. Some day the superiority of American oil may overcome this obstacle. It will be hard to dislodge Russia from her position in the sugar trade. Perhaps it is hardly worth while to try.

As Russia is rapidly forging ahead in the production of raw cotton and cotton goods, particularly the coarser grades, in iron—raw and manufactured—she stands a good chance of maintaining her lead. It is in the higher lines that Europe and the United States must hope to make sales here. In almost all other branches of manufacture there is a chance to compete. Italy and Germany have shown this. Let the artificial barriers be removed, or even should access by rail through Turkish provinces be ever realized, the recapture of their trade from Russia is possible to all those who ever had a share in it.

THE RUG INDUSTRY.

Consul Norton tells an interesting story of the rug trade in the province of Azerbaijau, Persia. He says:

The rug and carpet trade of the province is of special interest in this connection, as about nine-tenths of the product finds its way directly or indirectly to the United States.

The rug industry of Tabriz dates far back; the products of its looms are regarded by many as the most beautiful among the many varieties of Persian rugs. There is one large factory in the city, where I found over 1,000 lads busily occupied on rugs of all sizes and designs. Many were reproducing the old patterns which were in vogue over five hundred years ago and are still admired in both hemispheres. These lads work with great rapidity, and earn from $2.50 to $3.25 per month. The number of operatives in this one factory is largely increased in flush times. There are o.her smaller factories in Tabriz and in the lesser towns, while individual looms are encountered in most of the villages.

A few years ago aniline dyes were extensively used to dye the yarns employed in making rugs, and the effect was quickly felt in the decreased demands from abroad. In order to counteract the evil results the Government very promptly resorted to the extreme measure of prohibiting the entry of aniline dyes. The measures taken in this respect have been fairly successful, and now but few rugs show traces of aniline colors. While thus striving to maintain the reputation of the Tabriz rugs at the place of manufacture, much dissatisfaction is expressed by those engaged in the trade at the treatment to which the products of Tabriz looms are frequently exposed after reaching America. In order to meet changing whims of fashion, certain tints are often altered into more popular hues. The methods of bringing about these chromatic changes are of a nature which not only affect the original color schemes, but frequently impair the permanence of the rug, thus seriously injuring the reputation of the wares.

Three years ago the rug trade was in an extremely prosperous condition. Toward the close of 1903 the demands from America reached an unprecedented figure, and prices rose rapidly in consequence. The so-called "Mosuls" were trebled in value, the "Kermans" more than doubled, while the "Heriz" and "Sultanabad" varieties showed less marked increases. The manufacture of all grades of rugs was largely augmented, and local dealers laid in large stocks at the high quotations. When American purchasers refused to buy at the new rates, the market was enormously overstocked. Prices fell rapidly to figures in many cases below those of 1902. Many establishments of long standing were ruined, and the whole trade was sadly demoralized.

It is now slowly recovering. The demand from America is increasing, and manufacture is being extended in a normal and healthful manner. This applies, however, more particularly to rugs of wool. The silk rugs, for which Tabriz has long been famous, fail utterly to bring remunerative prices, and the smaller factories have discontinued operations, while larger establishments produce but a fraction of their former output. Silk rugs which in 1903 easily found sale at $100 are now sold with difficulty for $60. The competition of rug factories at Ceaserea, Konia, and other Anatolian cities is largely the cause of this unfortunate condition.

The carpets and rugs of wool exported in 1903 were valued at $1,054,000, in 1904 at $1,181,000; silk rugs, $62,000 in 1903 and $59,000 in 1904.

CEYLON.

LACK OF TRANSPORT FACILITIES.

Consul W. Morey, in accounting for the relatively small consumption of American products in Ceylon as compared with the consumption of Ceylonese products in the United States ($229,881 against $2,848,510), reports as follows concerning the trade facilities between that colony and the United States:

The transit facilities between the United States and Ceylon are still very unsatisfactory. There are no goods arriving here direct from the United States, therefore all American goods, except kerosene oil (one steamer coming direct with 1,685 tons of oil during the past year), come via transshipment ports, involving high freights and much delay and some uncertainty about the port of original shipment. This reduces the volume of trade from the United States, and at present there is no prospect of change.

It is different with exports, as trimonthly steamers, mostly from Calcutta, call here and carry to New York and Boston from 1,000 to 2,000 tons each of Ceylon products at a rate of freight averaging about $8 per ton, and performing the passage in from forty to fifty days, which is in marked contrast to the time absorbed in the transshipment of goods from the United States, generally upward of sixty days, the freight being about $15 per ton.

ARABIA.

TRADE OF ADEN IN COTTON GOODS.

Consul Masterson furnishes an interesting report concerning the trade of Aden in Arabia. The following extract is a résumé of its more important features:

The total for the year ended March 31, 1905, was, imports, $15,908,642, against $18,818,839 in 1904. Exports, $13,879,916, against $14,709,094 in 1904. Of the imports the United States furnished $1,438,681 and took of the exports $1,899,663.

The total importation of cotton piece goods was as follows:

From—	Gray.		White.		Colored.	
	Yards.	Value.	Yards.	Value.	Yards.	Value.
United States	23,612,740	$1,409,963	.....	.....	885	$71
United Kingdom	326,734	16,934	2,564,879	$135,024	866,890	58,402
India	7,473,000	423,995	2,056,711	103,233	4,697,408	294,019
Austria	.....	.....	1,500	81	15,300	719
All other countries	1,273,090	76,707	81,590	4,780	754,326	75,852
Total	32,685,564	1,927,599	4,704,680	243,118	6,334,809	429,063

The total importation of kerosene oil was 669,992 gallons, valued at $107,278, of which Russia furnished 636,392 gallons and the United States the remainder.

AUSTRALASIA.

AUSTRALIA.

HOW THE SUPREMACY OF GREAT BRITAIN IS MAINTAINED.

Hitherto German capitalists have paid comparatively little attention to Australia as a field for investment. British enterprise, backed by British capital, has been, and continues, paramount, and British investments have been the agency by which trade with the mother country is largely promoted and maintained. The attention of German industrial leaders has been directed to this fact, and German capitalists are being urged to look to Australia for profitable investment with the ulterior purpose of promoting trade. It is pointed out that Great Britain would not be able to maintain itself so successfully, in spite of American and German competition, were it not for the large sums invested in mining and every form of commercial enterprise. An economic writer for the Australian joint stock companies, in a volume recently published, classifies British investments in Australia as aggregating $1,834,904,000, the bulk of which is invested in city, communal, and similar loans. In the banks of Australia more than $80,000,000 of British money is invested, $20,000,000 in shipping, $5,000,000 in gas and water works, $246,000,000 in mines, and $262,000,000 in commercial companies of various kinds. In addition to these investments, there are others in joint stock companies, mortgages, etc., which it is estimated would swell the aggregate to nearly $2,500,000,000.

It is pointed out by one German writer that British investments in commercial associations are naturally made in those which serve to further the sale of British manufactured products, and that many of them are made with this particular object in view. The leading mercantile houses of Australia, it is said, sell the products of other countries, but only when forced to do so and to compete with rivals. Preference is always given to British products. Writing on these lines the German consul-general at Sydney, in a communication to his Government, which contains many points worthy of consideration in this country, says:

To increase our trade with Australia we must follow the example of England by investing German capital here. In this connection all things have to be considered. First, the unfavorable financial conditions in Australia and its political economics. Little attention should be accorded to the statement that German trade with Australia has increased without the investment of large sums of capital. New South Wales is just now asking for a loan of nearly $10,000,000 in London, the interest on which is to be 4 per cent and the selling price of the shares 99½. This does not look like doubt on the part of Lon-

don or Great Britain as to the future of Australia, although at this moment New South Wales is going farthest in the direction of paternal economic policies.

The present struggle between mine owners and the miners is looked upon as the beginning of a reaction, and the voices of many workmen are heard favoring the old-time conditions. The opinion that the laws of supply and demand can be set at naught by the passage of political regulations on the part of a socialistic parliament is losing ground. Ordinarily the Australian is a man of considerable common sense, so much so that he does not long struggle for the unattainable, but turns to other ways and means of accomplishing his objects just as soon as he sees the futility of old ones.

This leads one to think that the politics of the past will soon give way to something saner and more solid.

PERMANENT INVESTMENTS AND INCREASE OF TRADE.

In regard to the increase of German trade with Australia without the investment of large amounts of capital, one can only hope it will continue, but no increase will ever take place unless upon the basis indicated, namely, the investment of German capital in Australia. It is just possible that a continuation of the existing trade with slight increase may be secured if no extraordinary efforts are made to prevent it, such as are found in preferential trade rates. Germany has reached her natural possibilities of trade with Australia in the articles that constitute the largest part of her exports. If she desires to increase trade further by the noninvestment of capital, she will have to seek to do so by sending desirable articles now furnished by other countries. This, however, is very difficult, and the only way would be by means of investing capital. This would not only help to establish trade in new lines, but it would materially aid in increasing the demand and sale of old lines. It is capital that has helped Great Britain in spite of all the competition it has experienced; and if Germany is to ever successfully compete with Great Britain, it will only be when she has invested considerable sums of money in the same lines in which British capital is invested.

There are five ways in which capital can be invested if the best results of trade are to be secured: (1) By giving longer and more liberal credits; (2) by establishing large importing houses; (3) by establishing a German-Australian bank; (4) by participating more than formerly in good Australian enterprises; (5) by endeavoring to obtain larger contracts from the Australian government by agreeing to take payment in the form of government bonds.

INFLUENCE OF BRITISH HOUSES.

Attention has been called to the great influence of British exporting houses that give long and large credits. German houses must do as the British houses have done, particularly those German houses that wish to increase their trade with Australia. To-day demand is always made for London ratings from new houses. When those are not obtainable, bills of exchange for thirty, sixty, ninety, or one hundred and twenty days are taken, but open credit is never indulged in. A great many German commission houses would like to buy for Australian firms, but one seldom finds connections formed, because German

firms demand cash payments and refuse to open an account, as is done by the London firms. Then again, inasmuch as the German buyer offers no advantages to the Australians that would make it worth their while to change, trade is lost.

The leading houses of Hamburg, Bremen, Berlin, and the Rhine give credits to houses in South and Central America. Why not do the same in Australia? It is true that the profits in trade with South and Central America are greater, but the losses in Australia, when they take place, are always much smaller. Besides, rates of exchange and political conditions which hitherto have done much to harm German traders are seldom seen or felt in Germany. Australia is much less dangerous to the traders of the Empire than are Central and South American markets; and one well-directed and arranged credit in Australia would work a mighty influence in favor of German trade and industry. Manufacturers dealing directly with Australia might secure entrance for their products if they were not so firmly fixed in favor of cash payments, or in favor of regulations regarding payments that are found difficult by dealers in the Australian market. Of course one should not neglect to take every precaution in regard to investments, and in regard to payments when money is being placed or goods are being sold. What is really wanted is a greater desire and willingness on the part of the German manufacturers and merchants to meet the Australians halfway, or at least to make an effort to understand conditions that obtain in the Australian markets.

VALUE OF ESTABLISHED COMMERCIAL HOUSES.

In the matter of commercial houses Australia occupies an entirely different position to that occupied by eastern Asia. From Singapore to Vladivostok, Germans occupy the leading positions and enjoy a reputation for fairness and success. Many millions of German capital are invested in that part of the Orient and yield the investors good results. Besides, they lead to inestimable advantages to German manufacturers by making it easier to sell their goods and increase sales. It is entirely different in Australia. There are no large German houses in Australia, unless one regards the Australian Metal Company an offshoot of the Frankfurt Metal Company as a German house. There are some German wool buyers who do considerable business in that commodity, but they make no effort to secure markets for German products. There are some houses of the second and third class, and some agents, in fact, a good number of these last, but the influence of these firms is comparatively small, in fact, very limited. Some of them deal in special articles, while others, from the lack of capital, can do little or nothing for German trade.

ADVANTAGES OF LARGE HOUSES.

Big houses can easily build up a large trade, because they can handle a great many kinds of goods. The small houses can only deal with parties who have been in the habit of importing directly. They can not master the markets and the various situations that come up in the course of a year. The men who buy from the small agents or from the small houses confine themselves to those articles which they know can be sold, and when it comes to a test between German and British

goods preference is invariably given the latter unless the difference in price is sufficient to make it worth while to choose the German. These small dealers have little or no reason for urging the sale of German goods. The large importing houses, with their splendid warehouses, are in an entirely different position. Every small dealer and merchant in the country is their customer. They are in position to sell to the small merchant novelties, etc. Such a house can do more for the industry of the German Empire than all the so-called agents, because such a house gives a chance to German goods instead of English or American, a thing hardly possible to the mere agent, who has neither goods to show nor anything but arguments to offer.

An eloquent example of this fact is found in the statement made by a German woolen manufacturer who has a branch house in Australia. By paying attention to the demands of the Australian market, and by keeping a liberal supply of goods on hand for the small dealers, this house has succeeded in building up a larger trade in Australia than all the other German manufacturers of similar goods. It is true that the house carries English goods also; but that is absolutely necessary, because certain grades of goods produced by the English can not be produced in Germany at prices that would permit their introduction into Australia.

IMPORTANCE OF DIRECT BANKING RELATIONS.

The matter of establishing banks in foreign parts has often been discussed, so that it is hardly necessary here to consider the matter at any great length. Under existing conditions all money passing between Germany and Australia, in the settlement of accounts, goes by way of London; anything like direct transactions being at present practicably impossible. This, of course, has its disadvantages in extra expense, as well as the loss of interest and the division of profits. By establishing direct banking relations imports and exports between the two countries would be made easier and the large sums of money which to-day pass in the form of commissions, rates of exchange, interest, etc., from Germany to London and from Australia to London would go, if not entirely, at least in great part, to the banks and business houses of the two countries. Moreover, they would materially aid in the development of direct trade relations.

It is true that the London banks make no distinction between German and British houses, but when occasion offers to favor the one or the other the English firm of course would be favored. The experience of German manufacturers in money matters in foreign countries is often so small that they shirk from effecting any connection with London. In this regard a German banking institution would certainly secure considerable trade. What the French branch banks have done in Sydney and Melbourne could easily be done by a German branch bank in Australia. It could watch over German interests, particularly over those of its clients and correspondents, thereby avoiding many unpleasant discussions and losses. A German banking house would be particularly valuable if it would interest itself in the matter of investing German capital in Australia. A branch bank under the direction of a German institution would be much better favored in Germany and in Australia than a bank lacking such support. A German bank, if established for the purpose of watching over and carry-

ing on financial transactions necessary for trade in the German Empire, would be of great value and would undoubtedly find favor.

COFFEE AND CANARY SEED.

The Queensland department of agriculture has issued a circular to the coffee growers of the north offering considerable aid to stimulate and enlarge the industry. Difficulties have arisen in the unevenness of the quality of the berries produced and in the disposal of the crops. The department has obtained from England a complete plant for hulling, winnowing, separating, and grading berries. The machinery has been erected at the Kamerunga state nursery, where coffee in the dry parchment state will be received and hulled, graded, and packed in bags for the southern markets. The department will not roast or grind coffee nor interfere with private enterprise, but will assist the growers to put upon the market a properly graded article and will dispatch it for sale so as to secure the best prices. The cost of freightage to the nursery, packing, and other incidentals will be borne by the growers and will be deducted from the proceeds of sales. This proffered assistance will give a fresh impetus to the cultivation of coffee.

About 1,000 sacks of canary seed were reaped on the Darling Downs this season, and the area growing it is steadily increasing. The product met with a ready sale at between $4 and $5 per 112 pounds. The lands under this crop at present are chiefly near Clifton and Toowoomba. The seeding grass (Phalaris canariensis) is indigenous in the Canary Islands, as its name suggests, but it has become naturalized here and in many parts of Europe. There is a considerable trade in canary seed in Australia and the European markets are not overstocked. It is not only in demand as food for birds, but in some manufacturing countries a fine flour made from it is used in dressing cotton in weaving and for finishing off some silken stuffs. In the Canary Islands the flour is used in making bread.

CONSUL STANG, of Saigon, Cochin China, writes that rates for rice continue too high to tempt buyers, and that the firmness of the market is caused by an important reduction in the arrivals of paddies. The exports from January 1 to July 13 amounted to 688,330,294 pounds, as against 954,167,367 pounds for corresponding period of last year.

CONSUL-GENERAL DICKINSON, of Constantinople, reports that owing to disturbances at Baku and other points in the Russian oil fields the price of kerosene oil has been considerably advanced, and dealers in this article have commenced the importation of the American product. One hundred and sixty thousand cases have already arrived at Smyrna and Saloniki and 100,000 cases are expected shortly in Constantinople. The oil is shipped in bulk by the Standard Oil Company to Italy and is there put into cans and cases (two cans of 5 gallons each) for the eastern market.

AFRICA.

BRITISH SOUTH AFRICA.

INVITING FIELD FOR AMERICAN ENTERPRISE.

According to a printed tabulated statement, prepared by the director of customs at Pretoria, the imports into the Transvaal during the four months ended April 30, 1905, were valued at $24,040,962, an increase of over $1,500,000, as compared with the imports for the same months of the previous year.

The foregoing imports were received via Natal, Cape Colony, and Delagoa Bay (Portuguese East Africa) in the proportions stated: Via Natal, $10,323,255; Cape Colony, $8,403,036; Delagoa Bay, $5,314,671. It will thus be seen that the largest import, contrary to general belief, is via Durban, Natal, while the imports via Cape Colony (Cape Town, East London, and Port Elizabeth) are nearly $2,000,000 less. It is worthy of note in this regard, as a pointer for our exporters, that the imports into the Transvaal via Portuguese East Africa are constantly on the increase.

It is also worthy of note that the articles needed are such as are required by all new countries, particularly those engaged in mining and agricultural pursuits. The tools, implements, and machines that have helped here will be wanted there. All that is needed is the proper parties to effect sales and handle goods. For a long time South Africa will be forced to seek supplies of many kinds in foreign markets. A careful examination of the following table will suggest what is actually needed, as it covers the imports for portions of the years indicated.

It is to be regretted that the director of customs at Pretoria failed to give the countries of origin of the products composing the table of imports. In the absence of such countries, the following articles have been taken from the printed list—the values being reduced to American currency in the Bureau of Manufactures—as those wherein our manufacturers and exporters would be most likely to succeed in winning an increased trade.

ORIGIN AND VALUE OF IMPORTS.

Attention is particularly called to such items as the United States is in a position to supply. They consist, to a large extent, of the most important articles of South African import. For example, everything under corn and grain could easily be furnished by our cereal concerns. There is no good reason why American houses should not supply a large part of the canned meats, vegetables, and fruits.

American bottled beer is fast becoming a favorite in tropical countries. Its sale in South Africa might easily be extended and made certain. A careful perusal of the table will afford interested parties just such an insight into South African trade as will furnish information that could be obtained by other means and from other sources only at considerable cost

Articles.	Quantities.		Value.	
	1903.	1904.	1903.	1904.
Ale and beer.....gallons..	126,031	149,660	$93,055	$98,966
Animals, living:				
Cattle.....number..	1,246	3,393	113,045	201,110
Horses.....do....	891	2,439	163,060	286,290
Mules.....do....	408	571	18,320	47,725
Pigs.....do....	886	2,558	13,796	18,010
Poultry.....do....	84,434	176,880	70,725	118,295
Sheep and goats.....do....	29,429	76,376	178,195	472,160
All other.....do....	1,286	3,323	11,755	16,200
Total animals.....	.....	.....	563,895	1,159,790
Chemicals and toilet articles.....	.....	.....	439,529	513,306
Cyanide of potassium.....pounds..	1,378,162	2,550,145	217,845	365,240
Apparel and slops.....	.....	.....	1,183,004	980,287
Bags, not leather or canvas.....	.....	.....	57,050	72,045
Biscuits.....	.....	.....	92,054	88,945
Books:				
Printed.....	.....	.....	115,280	112,096
Stationery.....	.....	.....	197,250	215,060
Boots and shoes.....	.....	.....	661,596	746,471
Butter.....pounds..	1,642,122	366,975	1,649,827	354,860
Candles.....do....	3,016,772	4,388,298	222,460	308,060
Cement.....do....	12,410,355	31,189,930	43,760	91,695
Cheese.....do....	628,737	580,285	81,002	74,982
Clocks and watches.....	.....	.....	48,335	57,430
Confectionery.....pounds..	473,705	649,980	87,792	97,185
Corn and grain:				
Barley.....do....	434,154	634,856	9,950	17,575
Beans and pease.....do....	1,425,427	681,993	39,370	12,880
Bran.....do....	5,303,871	7,544,078	45,635	78,602
Flour and meal (wheaten).....do....	26,647,546	31,253,602	501,401	740,501
Flour and meal (other kinds).....do....	10,399,418	1,976,313	181,190	32,380
Kaffir corn.....do....	5,177,160	2,087,981	89,145	31,035
Lucerne and fodder.....do....	4,905,928	16,980,114	59,435	201,640
Malt.....do....	3,101,304	3,255,967	86,735	93,790
Mealies.....do....	23,800,082	31,049,536	326,325	329,095
Oat hay.....do....	13,155,140	10,381,059	141,385	92,795
Oats.....do....	9,062,244	8,197,762	115,925	101,790
Rye.....do....	45,000	168,397	515	3,015
Wheat.....do....	2,544,119	914,084	39,130	20,915
All other.....do....	348,964	191,879	5,440	3,100
Total corn and grain.....	106,340,257	115,317,571	1,641,581	1,756,613
Matches.....gross..	39,970	113,251	21,685	78,810
Meats:				
Preserved.....pounds..	2,122,148	2,018,729	316,600	273,443
Fresh and game.....do....	21,388,883	22,849,795	1,472,575	1,409,632
Milk, preserved.....do....	3,201,480	3,275,979	280,090	261,795
Paints.....	.....	.....	60,300	59,975
Paper of all kinds.....	.....	.....	125,613	139,340
Pickles and sauces.....pounds..	384,917	363,569	56,755	53,490
Soap, common (household).....do....	2,849,958	2,771,742	143,815	140,600
Spirits (oversea).....gallons..	177,776	177,946	369,350	359,235
Sugar.....pounds..	14,776,155	13,661,190	551,201	649,946

When the following table is added to the foregoing its value is considerably enhanced. It consists of important articles of Transvaal importations for the same periods as those given in the preceding table.

Articles.	Quantities.		Value.	
	1903.	1904.	1903.	1904.
Iron and steel:				
Fencing wire and poles			$51,300	$63,015
Galvanized and corrugated			193,380	274,600
Pipes			178,810	291,545
Rod, block, and hoop			240,245	207,375
Sheet			54,795	60,320
Total iron and steel			718,530	896,855
Jewelry and plated ware			216,150	256,825
Leather, saddlery, etc			151,430	136,690
Machinery:				
Agricultural			156,585	111,880
Electrical			168,895	131,510
Manufacturing			150,145	46,345
Mining			1,166,820	1,188,632
All other			506,276	608,816
Total machinery			2,148,671	2,087,183
Dynamite and other explosives ..... pounds	1,549,010	2,621,180	349,580	536,290
Earthen and crockery ware			350,925	532,561
Eggs ..... dozens	805,018	698,992	79,364	78,480
Fish, preserved and dried ..... pounds	1,492,483	1,532,994	178,232	184,357
Fruit:				
Dried ..... do	696,901	594,044	53,400	40,885
Fresh			263,370	334,465
Preserved ..... pounds	276,529	251,084	24,685	20,975
Furniture and cabinet ware			564,791	501,375
Groceries and oilman's stores			234,540	191,570
Haberdashery and millinery			1,433,716	1,414,326
Hardware			1,294,492	1,114,995
Hats and caps			114,830	114,620
Musical instruments			113,555	103,740
Tobacco:				
Cigars ..... number	3,531,650	3,733,720	85,542	89,180
Cigarettes ..... do	33,247,150	44,188,950	124,605	148,620
Manufactured ..... pounds	88,124	183,782	47,275	72,915
Unmanufactured ..... do	397,614	460,078	49,570	58,618
Total tobacco			306,992	369,333
Tramway material			144,900	202,045
Vehicles:				
Carts, carriages, and wagons			311,355	266,175
Cycles and accessories			191,940	182,430
Wines (oversea) ..... gallons	33,309	31,111	68,990	55,723
Wire (electric cable wire and wire rope)			66,825	246,685
Wood:				
Manufactured			283,290	298,610
Unmanufactured			628,821	589,326
Woolen manufactures			204,765	239,060

VASTNESS OF THE FIELD.

Without taking into consideration the special imports required to fill up the waste places caused by the recent war, the natural growth and development of South Africa will make it one of the most favorable foreign fields for the development of American trade, the greater portion of the imports required therein being composed of just such products as we manufacture and which, if properly brought to the attention of the consumers, will more than compete in their adapt-

ability to the uses for which they are designed and also in prices with British and other European manufactures.

In this connection the Bureau of Manufactures, to impress our exporters and manufacturers with the vastness of the South African field for their exploitation, presents the following figures, taken from British official returns, showing the imports into British South Africa through the colonies of the Cape of Good Hope and Natal, through which all foreign imports are received for their own consumption and for transit to the inland colonies, with the exception of the imports entered at Lourenço Marquez for transit to the Transvaal and other inland colonies:

The imports into Cape Colony (foreign), bullion and specie not included, for 1902, the latest colonial statistics at hand—late enough for present purposes, however—amounted to $156,272,727; the imports into Natal during the same year (bullion and specie not included) amounted to $64,810,621. If we allow $15,000,000 for imports via Portuguese East Africa in transit to British inland possessions—an underestimate, undoubtedly—we have a total annual consumption of foreign products in British South Africa of $236,083,348. The United Kingdom, as a matter of course, holds the largest place in this trade, as will be seen in the following table showing exports from the United Kingdom to British South Africa in 1903:

To—	British goods.	Foreign and colonial goods.	Total.
Cape Colony	$86,023,174	$5,942,472	$91,965,646
Natal	37,039,629	2,444,719	39,484,348
Portuguese East Africa	12,237,783	526,560	12,764,343
Total	135,300,586	8,913,751	144,214,337

Allowing $2,000,000 worth of British goods exported to Portuguese East Africa for local consumption, a very liberal allowance, leaves a total annual consumption of British products, mostly manufactures, amounting to $133,300,586 in British South Africa.

MEAGER TRADE OF THE UNITED STATES.

Our own official returns, "Foreign Commerce and Navigation of the United States," issued from the Bureau of Statistics, Department of Commerce and Labor, does not specifically designate our exports to British South Africa, grouping all British Africa under one head. There are no means, therefore, of making any comparison between our exports and those from the United Kingdom to British South Africa. Our exports to all British Africa during the fiscal year 1904, according to the foregoing official publication, amounted to $20,821,480, against $33,844,395 for the preceding year, when our exports to British Africa had reached the highest point of any one year in the history of the trade. With the exception of the years 1901 ($21,613,995), 1902 ($28,759,878), and 1903, our exports in 1904 were, however, larger than those of any previous year. In the decreased exports to all British Africa noted in 1904, over $5,000,000 occurred in wheat, and $1,300,000 occurred in flour. We have to turn again to British colonial reports in order to arrive at any just estimate of the amount

of American products consumed in British South Africa, the burden of this paper. According to colonial returns, the direct imports into Cape Colony and Natal from the United States in 1902 were as follows: Cape Colony, $15,847,281; Natal, $5,710,351; total into Cape Colony and Natal, $21,557,642, being somewhat more than our exports to all British Africa in 1904, as recorded by our Bureau of Statistics.

IMMENSITY OF GREAT BRITAIN'S TRADE.

To fully understand the trade of the United Kingdom with her South African possessions is to get a more comprehensive insight thereinto—its immensity, its value, and the character of the products required and consumed therein—than even from the African standpoint. For this reason, and in the hope of interesting our manufacturers, shippers, and exporters toward a renewed and continuous effort for properly exploiting this great and growing trade, the following tabulated statement has been prepared by the Bureau of Manufactures showing the exports from the United Kingdom to British South Africa in 1903, with special applicability to the class of manufactures comprising those exports wherein we can hope to increase our trade therein:

Principal articles.	Exported to—			
	Cape Colony.	Natal.	Portuguese East Africa.	Total.
Apparel and haberdashery	$12,479,589	$5,122,483	$637,020	$18,239,042
Arms and ammunition	1,078,970	303,663	147,460	1,530,093
Biscuits and cakes	493,017	201,960	42,365	737,342
Books, printed	1,146,693	306,590	.....	1,453,283
Candles	287,107	250,134	241,385	778,626
Carriages:				
Railway, all sorts, and parts thereof	2,971,788	522,700	142,860	3,637,348
Cycles, and parts thereof	792,255	422,421	.....	1,214,676
All other, and parts thereof	569,303	321,691	.....	890,994
Cement	476,920	166,960	.....	643,880
Chemicals and chemical preparations	992,270	396,185	142,860	1,531,315
Coal, coke, and patent fuel	2,090,165	8,300	79,365	2,177,830
Cotton piece goods	3,472,248	1,054,596	845,335	5,372,179
Cotton goods other than piece	1,865,810	900,304	354,765	3,120,879
Cutlery	403,423	164,030	36,501	608,954
Earthen and china ware	757,734	423,808	.....	1,181,542
Electric goods (other than machinery)	696,151	379,135	.....	1,075,286
Glass manufactures	540,682	337,290	73,988	951,960
Hardware, unenumerated	979,167	448,715	194,660	1,622,542
Hats, of all sorts	841,905	302,223	.....	1,144,128
Implements and tools	856,506	492,017	210,620	1,559,143
Leather, wrought and unwrought	4,875,250	1,633,660	183,968	6,692,878
Machinery:				
Steam engines	3,173,450	1,445,853	[a] 1,109,565	5,728,868
All other	4,132,395	1,192,769	.....	5,325,164
Medicines, drugs, and medicinal preparations	651,630	358,185	39,435	1,049,250
Metals: Iron, wrought and unwrought	12,253,355	6,456,880	4,302,980	23,013,215
Milk, condensed	1,008,865	423,388	110,938	1,543,191
Painter's colors and materials	590,060	379,365	228,963	1,198,388
Paper, of all sorts	1,365,013	443,352	.....	1,808,365
Confectionery, and preserved fruits	597,138	285,725	49,165	932,028
Provisions, including meats	950,894	556,242	224,361	1,731,497
Saddlery and harness	724,410	525,080	.....	1,249,490
Spirits	963,570	901,304	277,393	2,142,267
Stationery, other than paper	1,273,582	346,522	.....	1,620,104
Tobacco, of all kinds	459,146	184,925	.....	644,071
Wood manufactures:				
Furniture and cabinetware	1,791,375	998,292	303,192	3,092,859
Other kinds	239,962	99,165	72,998	412,125
Woolen piece goods	1,891,821	456,455	160,600	2,508,876
Woolens, other than piece goods	2,413,786	1,046,799	.....	3,460,585
Parcel post	2,444,975	385,907	10,223	2,841,105
All other articles	10,430,844	6,394,556	2,014,818	18,840,218
Total, British goods	86,023,174	37,039,629	12,237,783	135,300,586
Foreign and colonial goods	5,942,472	2,444,719	526,560	8,913,751
Total exports	91,965,646	39,484,348	12,764,343	144,214,337

[a] Entered "Machinery and millwork."

The articles embraced under the head of "All other articles" in the foregoing statement are made up of a large number of minor manufactures, such as aerated water, bags and sacks, beer and ale, blacking, brooms and brushes, rubber goods, cordage and twine, scientific instruments, jute goods, linen goods, metals and manufactures of (other than iron), musical instruments, oilcloth, plated ware, ships and boats and their machinery, silk goods, soap, telegraph cables and apparatus, toys, umbrellas.

How much American products are exported from the United Kingdom to South Africa under the head of "Foreign and colonial merchandise" (amounting to $8,913,751), it is not possible to state. It would not be too much to estimate it, at the very least, at $2,000,000. Consul Hollis, of Lourenço Marquez, a very capable judge, reports that the American products received at that port via England, Germany, France, etc., amount to much more than the imports received direct from the United States. The nature of the foreign and colonial products exported from the United Kingdom to British South Africa lends strength to the probability that a large part thereof are composed of American products, viz: Arms and ammunition, butter and cheese, chemicals and drugs, cotton manufactures, dried fruits, hats, leather goods, machinery, meats, condensed milk, musical instruments, petroleum and other oils, spices, spirits, tobacco, wood, etc.

INDUSTRIAL CONDITIONS IMPROVING.

Mr. Walter J. Ballard in an article in the Albany Argus on South Africa says that the country is taking heart after many years of trouble and hardship. The first encouragement was the discovery of diamonds in the Transvaal. Prior to this British South Africa had only two main centers of mineral wealth, Kimberley and the Witwatersrand. The rest of the country was insufficiently productive by reason of the fact that its white population (far too few at the best) was concentrated at those two points. The dissemination began with the diamond discovery in the Transvaal, followed by a development of the tin industry of that colony. Now comes the discovery of oil shales in Cape Colony, about 40 miles west of Port Elizabeth, and some 10 miles from the seacoast; also in the Riversdale district, about 25 miles due south of that town. Analysis shows that the shales contain 90 per cent of volatile matters, a far higher percentage than has yet been attained in any other oil shales in the world, except the best Australian. If this discovery holds out, the economic situation in Cape Colony will improve as if by magic. The gold discoveries in Madagascar also mean much to British South Africa. Transvaal prospectors and Transvaal mining engineers were the first to prove the real potentialities of the Madagascar gold fields.

The day will come when British South Africa will be prosperous in each of its colonies, Cape Colony, the Transvaal, Natal, Orange Colony, Rhodesia, and the other collateral regions, and offer a good market for the world's goods, particularly American.

PRICE OF MEALIES AT CAPE TOWN.

Consul-General Washington, of Cape Town, South Africa, supplies the following information regarding the price of mealies at the request of a number of American merchants:

Mealie meal is in very poor demand and selling slowly at $3.89 to $4.01 per bag of 100 pounds. Some 400 sacks were received from America. Samp is also a slow market and quoted at $4.01 to $4.40 per bag of 196 pounds for American, and $3.89 to $4.01 for Natal make. The *Black Prince* brought 945 bags from New York, and the *Orania* and *Canada Cape* 1,510 bags from Port St. Johns.

New season's yellow mealies are coming in slowly and are selling at $1.82 per 100 pounds. Some contingents of O. R. C. yellows are to hand and quoted at $1.82 per 100 pounds. In Natal the crops have been much delayed by rain and only small shipments have yet been made, but supplies are expected to be very plentiful in a few weeks' time. At the moment stocks are lower and quoted at $1.58 for whites and $1.82 for yellows. Some American yellow horse-tooth are offering at $1.70. Some 2,562 bags were received from Natal.

NORTH AFRICA.

COMMERCE OF TUNIS.

Vice-Consul Proux reports that the commerce of Tunis, North Africa, for the fiscal year 1904–5 aggregated $32,043,245, of which $15,366,358 was exports and $16,676,887 imports. More than one-half of the entire commerce of Tunis is with France, the exports to that country aggregating $8,353,904, and imports from France to Tunis $9,284,058. Commerce with other European countries was as follows: Great Britain, exports, $1,649,422; imports, $1,669,885. Italy, exports, $1,828,315; imports, $1,182,183. Belgium, exports, $530,370; imports, $397,689. Germany, exports, $205,780; imports, $255,760. Russia, exports, $532; imports, $664,323. Austria, exports, $79,914; imports, $271,689. Algeria ranks relatively high, the imports from that country aggregating $1,309,115, and exports from Tunis $1,587,031.

The exports from Tunis consist of products of the mines, farms, forests, and fisheries. The imports consist of live cattle, animals, farinaceous foods, fruits, etc., and various manufactures. Among manufactures textiles hold a prominent place, cottons alone standing for $1,921,000. A seeming anomaly—the importation of farinaceous food worth $2,535,000, against exports of the same for $4,940,000—is explained by the fact that France buys enormous quantities of grain and sends it back in the form of flour or prepared foods. Tunis hopes to build mills to grind its own grains.

The importations of groceries and tobacco amounted to $1,535,000. Of the customs, in spite of the 5 per cent duty and free trade in customs favoring France, Manchester maintains a firm position. Of metal goods, $1,849,000 were imported. Of these tools and hardware are down for $720,000; machinery, $948,000. Of the metal wares Germany furnished $40,000; Austria, $10,000, and the United States, $7,000.

EAST AFRICA.

OPENINGS FOR TRADE.

An interesting article on trade opportunities in East Africa is contained in the Engineering Times, London, of July 27. It says:

Mr. Arthur P. Jolly, who has lived in British East Africa, Somaliland, and the countries which the Juba River surrounds, for the last nine years, and who speaks all the native dialects, sends a most interesting report on the trade of those countries to the Manufacturers' Association of Great Britain. Mr. Jolly emphasizes the point that immense openings for trade exist in iron, copper, and brass ware, building material, coals, agricultural implements, and many other articles, and urges that British manufacturers should set about capturing these markets in a more systematic manner. The exports consist of ivory, india-rubber, copal, aribica, hides, skins, horns, grain, shells, mangrove, bark, copra, mocha coffee (which is the finest and cheapest in the world), potatoes, beans, fiber, and wax.

The country is also capable of exporting large quantities of timber, which is spread along the banks of the River Juba for hundreds of miles. In these forests may be found oak, walnut, ebony, mahogany, and iron redwood, suitable for all purposes. These valuable natural productions not only offer return cargoes for shipping lines, but afford opportunity for the investment of British capital and enterprise with prospect of profitable returns. There are some 30,000 camels employed yearly in transporting immense quantities of merchandise from the coast towns to the interior. The greater part of the business is at present in the hands of America and Germany, who work the countries direct with their own representatives.

There is at present a splendid opening here for agricultural implements and machinery, and good prices may be obtained. The fertility of the soil is remarkable. It is capable of producing three crops in a year. At present these countries supply the South African markets with large quantities of potatoes. These countries are thickly populated, and the natives' ambition is to dress in imitation of the western fashion, and such dress goods they willingly pay high prices for. The country is capable of growing excellent cotton, and companies are already being established with this view. Transport service is also being established on the River Juba to supersede the present caravan transport, which is very slow and expensive. The new river service will carry goods four times as quickly and at less than half the present camel transport rates.

KONGO FREE STATE.

ITS COMMERCIAL AND INDUSTRIAL DEVELOPMENT.

Consul-General Church Howe, of Antwerp, furnishes an interesting report on the Kongo Free State, the twentieth anniversary of whose independence was celebrated at Antwerp in May last. This State is under the protection of Belgium, and King Leopold has manifested

the greatest interest in its physical development, industrial progress, and the moral welfare of the people. Under his direction the country has been thoroughly explored and many public improvements made. Describing the rapid advancement made, Mr. Howe writes:

The Kongo Free State covers an area of 800,000 square miles, or nearly four times that of France. Lying on the equator it extends 5° north of the line and 5° south. The river Kongo is the most valuable feature of the new country. It is navigable from its mouth to Stanley Falls, a distance of 900 miles, with the exception of the rapids and falls from Yelala to Leopoldville on Stanley Pool, a distance of 280 miles. The connection of the navigable portions was absolutely essential to the future prosperity of the State. This the Belgians fully realized, and in July, 1898, the railway from Matadi to Stanley Pool was inaugurated in its full length, about 250 miles. The opening of this railway has brought the resources of the Kongo Free State in direct communication with the markets of the world.

PRODUCTS OF THE COUNTRY.

First and most important of all the Kongo country's products are ivory and rubber, of which experts say there is a sufficient store with which to supply the markets of the world for a length of time that need not cause anxiety to present generations. Besides this the country produces nearly all the staple tropical products in a wild state. During the last twenty years the Belgians have directed their efforts with considerable success to the cultivation of native cotton, sugar cane, tobacco, coffee, and cocoa. American cotton, within the last three years, has been planted, and the result of this experiment, which promises well, is awaited with great interest. The furniture industry has been greatly enhanced by the discovery of most valuable species of ornamental woods, which vie in beauty and durability with the woods already known in the cabinetmakers' art. Copper and iron have been found in rich deposits, and there are signs of gold in the Katanga, discovered after years of arduous prospecting.

TRANSPORTATION FACILITIES.

Since the opening of the railway in 1898 the importance of the Kongo market at Antwerp has been steadily increasing, for it must be remembered that all the commercial enterprises in the Kongo Free State have made Antwerp the general world market for the Free State products. A regular triweekly service of elegant, first-class passenger mail steamers, specially built for the trade by English owners and sailing under the Belgian flag, plies between Antwerp and Boma, which is the principal city and port of the Kongo. The Matadi-Stanley Pool Railway covers a distance of about 250 miles over a very hilly country, necessitating the construction of over 100 bridges varying in length from 30 to 330 feet. The time occupied in making the journey, which is only continued in the daytime, is about forty hours. The night stop is made at Tumba, a little less than half way between Matadi and Stanley Pool. The cost of building this railway was $12,500,000. Another railway from Boma to Lukula, a distance of 100 kilometers, or 62 miles, was commenced in October, 1898, and reached its terminus, Lukula, in December, 1901.

The Kongo Free State has now in view the building of 1,242 miles of railway. One line is to connect Stanleyville with Mahagi and Dufili with Redjaf, and another will connect Kasango, on the river Lualaba, with the environs of Kibanga, on Lake Tanganika. Another branch of this important railway system will run from Stanleyville to the south, into the center of the Katanga district. The greater part of the railway along the Lualaba from Stanleyville is well under way.

INLAND WATERWAYS.

The Kongo Free State has on the waterways of the upper Kongo regular steam navigation lines. On Stanley Pool there are about 100 steamers, half of which belong to the State. The steamers in use on the river and lakes are specially built in Europe for sluggish waters. The Free State's fleet on the upper Kongo comprises 33 steamers, to which must be added 8 steamers on the lower Kongo, besides about 70 more belonging to private corporations. The terminus stations for steam navigation are Stanleyville on the Kongo River, Kunimbi on the Loamai, Lusambo on the Sankuru, Lubeo on the Lulua, Popokabaka on the Kwango, Zongo on the Ubangi, Ibembo on the Itimbiri, and Jambuya on the Aruwimi. From these ports wide and easy highways extend toward the interior, some of them specially constructed for automobile service and others for projected railways.

Steamers and sailing vessels have been launched on Lake Tanganika, Lake Kivu, and Lake Moreo. The ports of Banana, Boma, and Matadi on the lower Kongo are accessible at all times to trans-Atlantic steamers, and Banana, at the mouth of the river, enjoys the great advantage of having no sandbanks to interfere with navigation.

TELEGRAPH AND TELEPHONE.

Communication within the past ten years by telegraph and telephone has been largely developed. The first telegraphic line was established between Boma and Matadi, July, 1895. On September 15, 1898, both telegraphic and telephonic communication was established between Matadi and Leopoldville. At the end of the same year the wires ran for a distance of 425 miles, and in 1899 there were some 800 miles of wire in use. Since that time long-distance telephoning has been perfected and communications are practically easy for distances of about 400 miles. Wireless telegraphy is now being successfully experimented with.

ADMINISTRATION OF JUSTICE.

Justice is now administered throughout the length and breadth of the Kongo Free State. In the capitals of the various districts there are territorial courts having jurisdiction over both natives and Europeans, and the judicial system is carried out by 44 civil tribunals and military courts, 57 bureaus of vital statistics, and 26 official notaries. Over all these is the high council which sits at Brussels, both as a court of appeal and as a court of cassation in civil and criminal affairs. There is a court of appeal at Boma composed of a president and two associates, a district attorney, and a clerk. The three judges are chosen, as far as possible, from different nationalities.

The court of first instance of Boma may sit in any part of the State. Its competency is general, covering civil, commercial, and criminal affairs. The territorial courts are competent to deal with all infractions of the law committed within their districts, or even beyond the limits of the same even if the parties reside or are found therein. Crimes committed by the white people and punishable by death are tried exclusively before the court of first instance of the lower Kongo at Boma, where the accused parties enjoy all the privileges of a fair trial guaranteed by civilized countries. The Government is constantly giving its judicial agents strict instructions for the protection of the blacks, and any infringement of the rights of the natives is severely punished.

SANITARY CONDITIONS.

The medical service is composed of a chief doctor, domiciled at Boma, and one doctor for every district, domiciled at the capital, each of whom has at his disposal a certain number of native nurses. There are 27 of these Government doctors scattered throughout the Kongo Free State, besides, of course, the private practitioners. In the capital of each district there is a pharmaceutical depot, which supplies the drug stores of the various stations of the district. The capitals of each district, as well as the important stations, have Government hospitals for the care of the natives in the Government service. These are generally built of brick, and are well fitted. In Boma and Leopoldville there are hospitals specially fitted out for the care of white people.

EDUCATION.

The Government has established school colonies, managed by Belgian Sisters of Charity, where the scholars acquire a practical, solid, professional training. From these institutions the Government has acquired the services of capable employees, foremen, and noncommissioned officers for the public force, the name by which the army of the Kongo Free State is known. The Belgians in 1885 had only 3 missions and 6 missionaries in the State. To-day they possess 59 permanent missions and 29 traveling missions, attended by 384 missionaires and Sisters of Charity. There are 528 chapel farms, 113 churches and chapels, 523 lecture halls, 3 intermediary schools, 75 primary schools, and 449 elementary schools. In the latter the natives themselves teach reading and writing. There are 7 poor asylums, 71 Christian villages, and 72,382 converted Christians. The schools are meeting with success, and it is stated that the young Kongolese learn with ease and rapidity, speak French well, and are apt for high education. Many go to Belgium, where, if they become acclimatized, which, it must be borne in mind, is not always the case, they follow various callings with a certain degree of success.

COMMERCE.

The increase of trade with the Kongo Free State during the past seventeen years has been remarkable, exports jumping from $380,850 in 1887 to $10,000,000 in 1904. The imports rose from about $990,000 in 1892 to $4,600,000 in 1904. Of this latter sum $3,500,000 was exported direct from Antwerp, while goods to the value of only $1,400

were exported from the United States direct. Of the total exports from the Kongo during 1904, $9,700,000 was shipped direct to Antwerp and $270 direct to the United States. The fact that the great bulk of the trade with the Kongo Free State is concentrated at Antwerp is due to that port being the universal market for all Kongo products, hence Americans desirous of extending their trade with the Kongo Free State must, under the circumstances, do so through the business houses of Antwerp.

AVAILABLE AMERICAN MANUFACTURES.

America manufactures many products specially adapted for use in the Kongo country, viz, cheap jewelry, watches and clocks, paints and varnishes, preserved and canned goods, cotton clothing and woolen blankets, portable engines, machine tools and hardware, camping outfits and camp utensils, American soaps, and portable galvanized buildings.

While the people of Belgium have opened up a new and needed outlet for their industry and stimulated their home markets by the steady increase of the Kongo's tropical products, they have at the same time worked wonders in the colonization and civilization of central Africa, and King Leopold may well be proud of the first twenty years of his cherished project in bettering the condition of his wards in the Dark Continent, and for which, for a period of fifteen years, he sacrificed his private fortune.

Valuable Invention for Metal Working.

The Birmingham Mail of August 15 says that Mr. Sherard Cowper-Coles has invented a new process by which, it is claimed, metals can be burned into one another at a temperature hundreds of degrees below the melting point of any one of the metals, thus enabling new effects to be obtained, and also the blending of various metals, which hitherto has been impossible. Inlaid metal work can be produced similar in effect to the finest damascening, or, on the other hand, the process readily lends itself to larger work requiring greater boldness, such as panels. By a variation of temperature the depth of the inlay can be regulated, and at the same time one metal can be considerably raised above another at the will of the operator. Very pleasing effects can be obtained by the process.

Arms for China.

The London correspondent of the Birmingham Post declares "on excellent authority that the Chinese Imperial Government, after consultation with the Governments of the United Kingdom and France, has appointed three French and a like number of British officers to superintend the reorganization and development of the State arsenals of China. The Chinese ministers have satisfied themselves, I am informed, that none of the powers will now offer any objection to the free importation by China of arms and ammunition and of the machinery for making them, the prohibition imposed at the time of the relief of the legations at Pekin by the allied forces in 1900 being considered to have lapsed."

SOUTH AMERICA.

CONDITIONS AND OPPORTUNITIES IN BRAZIL.

DIRECT STEAMSHIP CONNECTION NOT AN ESSENTIAL FACTOR—ADDITIONAL MAIL FACILITIES NEEDED.

No. IV.

Special Agent Lincoln Hutchinson forwarded from Rio de Janeiro under date of June 30 his fourth letter. Since Mr. Hutchinson's departure from Bahia he has been busily engaged in getting in touch with men who have had long experience in Brazilian affairs and gathering information on questions which were outlined in his three previous letters. One of these questions is the influence on American trade of the relatively inferior steamship connections between ports of the United States and those of Brazil. A letter received at the Department of Commerce and Labor from Mr. E. L. Corthell, of New York City, in May last, containing suggestions on this subject, was forwarded to Agent Hutchinson, who has promptly taken up the suggestions contained in that letter. Mr. Hutchinson writes:

Ever since my arrival in Brazil I have on all possible occasions, in interviews with all classes of men, tried to gather information on the question as to whether, relatively, inferior steamship connections between our ports and those of Brazil is an obstacle to the progress of American trade. I have also set on foot here other inquiries on the same subject, and shall hope soon to have full evidence upon which to base a final opinion. I do not think, however, that this further evidence will alter the tentative judgment which I have already formed, and I take up, therefore, at once the reply to the suggestions included in Mr. E. L. Corthell's communication of May 16, 1905, addressed to the Secretary of Commerce and Labor, a copy of which reached me June 28.

Mr. Corthell's letter suggests some form of active effort on the part of the United States Government to promote the establishing of one or more lines of large and fast steamers running between the ports of the United States and those of Brazil, assuming that this improvement of the service would greatly increase the trade between the two countries. Mr. Corthell is not alone in making this assumption. Nearly every article that is written and nearly every speech that is made on the subject of our trade with South America seems to take it for granted that the inferior character of our direct steamship service to the south is a serious handicap to our exporters.

NO LACK OF STEAMSHIP FACILITIES.

There are, however, grave reasons for doubting whether the improvement of the steamship service would have any great or immediate

results of the sort predicted, and I have, therefore, considered it one of my most important duties to examine this question with especial care. My reasons for doubting the efficacy of the proposed stimulus to trade fall under two distinct heads: The opinions of the larger importers here, and the experience of other nations which have abundant transportation facilities. I find many of the largest and most experienced importers, men who deal in goods from both the United States and from Europe, inclined to laugh at the idea that American exporters are in need of greater facilities. They claim that they never have any difficulty in getting all the goods that are demanded from New York quite as readily as from London, Liverpool, or Hamburg. And as to the experience of those countries that control the bulk of the transportation to Brazil, the statistics show that in the past ten years some of the countries of Europe which have made the greatest effort to stimulate steamship facilities between their ports and those of Brazil have been the least successful in holding their Brazilian trade. The figures are as follows, stated in five-year periods, and represent annual averages:

	1894–1898.	1899–1903.	Increase or decrease.
			Per cent.
United States	$13,760,000	$11,220,000	−18.5
United Kingdom	32,240,000	25,710,000	−20.3
Germany	13,710,000	10,630,000	−22.5
France:			
General	13,150,000	8,600,000	−34.6
Special	20,370,000	12,680,000	−38
Belgium:			
General	3,940,000	2,480,000	−38.3
Special	6,710,000	4,210,000	−37.3
Italy	2,780,000	3,100,000	+18.6

In short, the countries of Europe, as well as the United States, have lost ground in Brazilian trade in the last ten years, with the single exception of Italy, but the decline in the case of the United States is smaller than in any other. We show, therefore, a relative improvement. England, which controls the bulk of the transportation facilities, and Germany, which has been making persistent efforts in favor of her direct lines of communication, have both shown a falling off in trade greater than that of the United States, while France, which subsidizes one of the largest lines running to these ports, has lost over one-third of her trade in the same period. Italy alone shows an increased export, and her success can be much more readily explained by other facts than by the existence of her direct lines of steamships.

TRANSPORTATION AND MAIL FACILITIES.

In the face of such figures it is far from safe to assume without further evidence that the establishment of direct lines of steamers from the United States to Brazil would greatly stimulate our export trade, and I have endeavored, therefore, to make a more complete analysis of the situation. The question is a complicated one, but it readily divides itself into two considerations: The influence upon American trade of (1) the lack of transportation facilities, and (2) the lack of mailing facilities. And these two must be considered separately.

First, then, is there an insufficiency in the amount of freight accommodation offered to American shippers to Brazil; or does the irregularity of sailing and the uncertainty as to exact date of arrival place any serious obstacle in the way of our exporters? The only way to answer these questions is to get the opinions of men who have had actual experience here in importing goods both from the United States and from Europe, and such opinions I have sought to obtain. I have not met with a single complaint as to the amount of freight accommodation available, nor have I been able to learn of any important instance in which an order went to Europe rather than to the States because such accommodation was lacking. Not only does it appear certain that there is sufficient freight space constantly offering, but that the rates are as low as could be expected in view of the rather limited amount of our exports, as for example, compared with those of England. It is commonly asserted that freights from England or the European countries to South America are lower than from the United States, and I have heen endeavoring for months past, in England and the United States, to get definite figures which would either confirm or disprove this assertion. I have continued the search since my arrival in Brazil, and I am very glad to say that I am at last, with the very courteous assistance of the chief of the Brazilian bureau of statistics, getting at reliable facts which I believe will give a final answer to the question.

AMERICAN AND ENGLISH FREIGHTS EQUAL.

My figures are as yet incomplete, but they seem to show that except as regards certain goods of great bulk as compared with their value our freights are almost the same as the English, and in some cases are even lower. I shall report more fully at another time, but a few of the figures may be mentioned now by way of illustration. They are taken from sworn statements contained in the consular invoices and there is no reason to doubt their substantial accuracy. I state them in terms of percentage of the value of the goods.

Cost of getting the goods from the port of shipment to the custom-house in Brazil (includes freight, insurance, and incidental expenses), in percentage of the value of the goods.

	Per cent.
Machines, tools, utensils of iron and steel:	
From England	12.2
From United States	12.0
Difference in favor of United States	.2
Rubber goods:	
From England	6.4
From United States	6.7
Difference in favor of England	.3
Hams:	
From England	18.0
From United States	21.1
Difference in favor of England	3.1

In the case of the iron and steel goods, as in rubber goods, the transportation charges from England and the United States are thus practically equal, the United States having an insignificant advantage in the

former and England in the latter. For hams the advantage of England is very considerable, and seems to have much influence in determining the routes of shipment of American hams, besides enabling England to compete with her own product.

INDIRECT SHIPMENT OF HAMS.

I have succeeded in getting statistics of the "indirect" importation of American hams into this country, and they reveal the fact that these goods shipped from New York to England and reshipped to South America reach the Brazilian markets at a cost but slightly in excess of what they would have borne if they had come direct. Nearly 50 per cent of the hams of declared American origin come via England, and their value, c. i. f., upon reaching here averages 17.2 cents per pound. The other 50 per cent, which come direct, have a value, c. i. f., upon reaching here of 17.1 cents per pound. These hams, which come via England and constitute 50 per cent of the imports of hams of acknowledged American origin, are, it must be remembered, those only which are actually declared in the consular invoices to have been produced in the United States.

There is every probability that far greater quantities of the American goods go to England, are there repacked, and are then reexported as of English make. The exact quantity of American hams thus "Anglicized" there is no possibility of determining, but it is generally conceded to be very large. It is the lower freights from England on this particular class of goods which makes such indirect methods possible, though it is very likely that the process would continue even if American freight rates were considerably lowered. The supposedly English goods seem to enjoy a certain prestige and are able to command better prices in these markets. Even those products of the United States which enjoy lower freights by the direct route than by way of England come here (some of them at least) by the roundabout route.

The consular invoices show, for example, that in the three months, July, August, and September, 1904, there were received in Brazil rubber goods, of declared American origin, valued at $11,600. Of these 9 per cent came by way of England, in spite of the fact that the freight from England to Brazil was the same as from New York, and the goods had to bear the additional expense of transportation from New York to England. Likewise 2 per cent of the declared imports from the United States of machines, implements, and utensils came to Brazil via England during the same months, although the freights from New York were actually a little less than from England.

FREQUENCY AND REGULARITY.

The question as to the frequency and regularity of the freight service and the mails from the United States is quite distinct from the question of rates, and on this point I have found great divergence of opinion. The facts as to the service are well known and have been so frequently reported upon in the Consular Reports that I need not repeat them here. Suffice it to say that the service from Europe is carried on by large and fast steamers, thoroughly equipped in every way for freight, passenger, and mail business, running on accurate

schedule time, and giving regular communication between Brazil and Europe, in each direction, at least six times per month, while the steamers from the United States are small and slow, have only inferior accommodation for passengers, and, with the exception of a single sailing each month (the Lamport and Holt Line), are more or less irregular as to time of departure and arrival. It is thus often possible to get much quicker delivery of an order from England or Europe than from the United States.

The results of this inferiority of the American service, I find, depend upon the size and nature of the particular business affected. Large wholesale dealers and commission men who import in considerable quantities at a time, and whose orders are usually for standard grades and sizes of goods, tell me that they suffer no inconvenience. Their orders go by cable and are thus independent of the mails, and by timing them carefully they can get the goods shipped promptly from the States on one of the steamers whose service is regular and certain. With smaller dealers and smaller orders, as well as in all larger orders, where full and specific instructions have to be given as to sizes, shapes, weights, and grades of goods, the mails must be used, and I have met with many complaints as to the inadequacy of the service. I have heard of instances in which it took twice as long to get such orders from the United States as from Europe.

As the United States is entering a comparatively new market here, in competition with older countries whose goods have been long established in the field and have fixed themselves in the esteem of the people, a great deal of her trade must be in commodities of the sort just mentioned, made and shipped in such fashion as to conform with the customs and prejudices of a market already established by her rivals. Consequently in a very large part of our Brazilian trade the mails are an important factor, and there can be no doubt that many orders which might otherwise go to our manufacturers go to Europe instead. In short, while there appears to be ample freight accommodation to meet the requirements of American export trade to Brazil at the volume at which that trade stands to-day, the same can not be said as to the mail service. This latter is very inadequate and its improvement would stimulate our trade.

UNITED STATES RELATIVELY UNKNOWN.

I find also a general consensus of opinion that the mere appearance in Brazilian ports of steamships carrying the American flag would do much to help convince the people that American trade connections are worth cultivating. At present our flag is never seen here except on an occasional war ship, or private yacht, or an out-of-date sailing vessel. The mass of the people scarcely know that such a country as the United States exists, and those who do know it, most of them, have but the dimmest notion of the vast economic activities of our people. This is a market peculiarly sensitive to notions of fashion and prestige. Most of the population, all except the very few who have traveled in the United States, have exalted ideas as to the greatness of England, France, and Germany, and the "fashionableness" of using commodities produced in those countries. There is not the slightest question that these impressions are deepened by visible illustration of the superiority of European merchant marine in Brazilian ports.

MAILS SHOULD BE EXPEDITED.

Such are the facts. The question of remedies it is scarcely within my province to discuss. It seems certain, however, that present freight facilities are adequate to the business now done, and that if business were to grow the shipping world would respond to the demand. Whatever argument may be advanced in favor of the establishment of new lines at present must be based, not on the necessity for greater transportation facilities, but on the demand for improved mail service and the possibility of stimulating the Brazilians' imagination by giving them visible illustration of what our merchant marine can do. New lines established now would have to be run at a loss for a very considerable period. Of this there can be no doubt.

But there is one direction in which improvement might be effected even under present conditions. Mails from New York appear at present to be sent out indiscriminately by the first steamer which happens to sail for South America, without consideration as to when that steamer is likely to reach her destination. A single case will illustrate what I mean. On June 13 I received letters here which had left New York on May 15. On June 20 I got other letters which had left New York about May 12, but had come by a slow cargo steamer which had stopped at many ports en route and had finally transferred her mails to an English steamer at Pernambuco. In private correspondence such irregularities are merely annoying; in business affairs, where haste is an important factor, they are distinctly injurious. If the post-office authorities could see their way clear to selecting steamers which are scheduled to reach the destination soonest, even if the mails at times have to go to South America via England, some improvement would be effected.

BRAZIL'S ECONOMIC CENTER OF GRAVITY

In my reports from Pernambuco and Bahia I expressed grave doubts as to the possibility of any immediate improvement in the import trade into those portions of Brazil. As I came south I found conditions much more encouraging, and here in Rio de Janeiro and in the neighboring State of São Paulo I have been deeply impressed with the possibilities which are awaiting development. I am convinced that the economic center of gravity of Brazil lies in this southeastern portion of the country. There is predicted a great future for the Amazon valley as well, but that section, like the northern coast which I have visited, must for decades, if not for generations to come, stand far behind this southern subtropical region as a market for imported goods. It is to this section mainly that our manufacturers must look for their greatest opportunities.

Here is found the densest and most progressive population and the greatest economic activity, and it is pleasant to note an undercurrent of friendliness toward the United States and a seeming willingness to meet any advances our people may make, at least half way. There is a great field awaiting development if our exporters can be made to believe that it is worth while to employ the right methods. As to what the methods are which are proving most successful here is a subject for future consideration.

METHODS EMPLOYED TO SELL GOODS—WELL-QUALIFIED RESIDENT AGENTS NEEDED.

No. V.

Special Agent Hutchinson writes from Rio de Janeiro, under date of June 7, and gives the result of his inquiries into the methods of European exporters in introducing and selling their manufactured products. What he says regarding the employment of thoroughly equipped men as resident agents, and the high estimate placed on their services by European manufacturers and exporters, is worthy of serious consideration by our manufacturers and merchants. Mr. Hutchinson mentions certain manufactured goods which might be profitably introduced by Americans. His letter follows:

Since forwarding my last report, from Rio de Janeiro, I have gathered further information in regard to the various methods employed by exporters to introduce their goods into this country. I find the methods differ greatly, varying with the nature of the commodities, the size of the business, the credit of the exporter or importer, and, to a certain extent, with the nationality of the persons concerned. I shall confine myself to an enumeration of the methods employed by American exporters, adding comments as to their efficiency.

1. Many firms are content with the mere sending out of circulars, either directly to importers here or through the consulates. In some cases these circulars are translated into Portuguese, and the weights, measurements, etc., given in terms of the metric system. In the majority of such cases, however, even this slight attention to the peculiar needs of the Brazilian market is omitted; the circulars are printed in English, and the English system of weights and measures used. In either case there can not be the slightest doubt that the sending of circulars, in the vast majority of instances, is utterly useless, and results only in the waste of postage. Some of the old-established exporting firms whose brands of goods are already well known in these markets may possibly be able to employ circulars with a little success, but such established firms are mainly English and European. For Americans, with one or two insignificant exceptions, they are of no value whatever.

COMMERCIAL TRAVELERS AND THEIR QUALIFICATIONS.

2. The sending out of ordinary commercial travelers. Here again the "prestige" which certain classes and "nationalities" of goods enjoy in the Brazilian markets plays a most important part. The American traveler, as a rule, even if as well equipped in every way as his English or European competitor, is handicapped. The market is peculiarly conservative, both as to the character of goods demanded and as to the introduction of any novelties of method, and the casual American traveling agent can make but little headway. This would be true even if the American travelers were, as a class, as efficient as those sent over from Europe. As a matter of fact they are by no means as efficient. There are, of course, numerous and striking exceptions. I am speaking of the average.

In the two months of my stay in Brazil I have come into contact with very many of such agents of all nationalities. I have also had many conversations with merchants here with whom they deal, and the opinion has been forced upon me that they are not men of as high grade as those from across the Atlantic. The best of such agents are undoubtedly the Germans, and I can perhaps best illustrate the shortcomings of the Americans by describing the merits of these rivals. In the first place the best men are expert linguists; they can converse with equal fluency in English, German, French, and Portuguese. For parts of South America outside of Brazil, Spanish is, of course, also necessary. This is a point whose vital importance can not be too strongly emphasized to American exporters, and it is growing daily more important. Not many years ago the bulk of the import trade of Rio de Janeiro (and Rio's imports represent 60 per cent of the total foreign purchases of Brazil) was in the hands of English merchants resident here and an English-speaking agent might hope to do business. But there has been a gradual change, and the import trade is to an increasing degree in the hands of Portuguese and German houses. As to Brazilians proper, the majority of those who are familiar with any language besides their own talk French rather than English. I have heard of cases in which American agents attempted to deal with these foreign importing houses by employing interpreters. The futility of such a method needs no comment.

TECHNICAL EXPERTS THE BEST AGENTS.

In the second place I find the best German agents are technical experts in the lines of goods which they represent. It should always be remembered that American exporters, like the German, are the attacking party in the competition for South American markets. The field has for many years been in the possession of the English, and to a less degree of the French, and the newcomer is obliged to meet long-established custom and prejudice. This he can do only by catering in all minute details, many of them at times seemingly absurd, to the peculiar tastes of his customers. To do this properly the agent must know exactly what his principal can do in the manufacture of new grades, sizes, weights, shapes, and colors of goods, or in changes in manner of packing. He must be able to figure accurately what each innovation will cost his firm, and what prices he can therefore quote.

I have heard of far too numerous instances in which an American traveler has, after getting an order by dint of long persuasion and by agreeing to have some slight change made in the goods, had his agreement with the importer repudiated by his principal. The annoyance and delay caused to the importer by a single case of this sort may undo all the good accomplished by months of patient effort. I met recently a German commercial traveler who has for years been selling cotton textiles in South America. In addition to his perfect familiarity with five or six languages and his long experience as a "traveler," he had had a thorough training at home in one of the great technical schools for spinning and weaving. Men of this sort may at times make the mistake of accepting orders which their firms can not fill, but they are not very likely to do so.

To get men of this caliber is not altogether an easy matter, and, of course, the inducements offered in the way of salaries, etc., must be

considerable. I am credibly informed that men of this class sent out by German firms are paid the equivalent of $300 per month, plus a commission of 5 per cent on their sales, and are allowed traveling expenses without specific limit. It unfortunately seems to be the rule that American exporters are unwilling to incur so great expense as this. They send cheaper men and get inferior service. I have heard of men being sent out at $100 per month, with no commission, and with an allowance for traveling expenses of only $5 per day. It should be added, however, that a change is at present going on in this respect, and some of the very best men I have met are here in the interest of American firms. It is greatly to be hoped that all of our exporters will realize the utter futility of sending any but the most efficient travelers, even if the expense does seem large at first. If the trade is to be captured at all it must be at the expense of a good deal of time and money.

PRESENCE OF AGENTS ESSENTIAL.

3. The usefulness of the ordinary commercial traveler, no matter how thorough his equipment may be, is, however, confined to those lines of export trade in which well-known brands of goods are involved. So far as American export is concerned, these classes of goods are rather few in number, for, as already mentioned, the bulk of the trade is already in foreign hands. The introduction of new goods absolutely requires the continued presence in the markets of agents whose duty and interest it is to push sales persistently and patiently. These men must know the language and the people, their customs, prejudices, and peculiar tastes; they must advertise, display, and even distribute samples of their goods, and they must be always on the spot to demonstrate the superior quality or cheapness of the articles they are seeking to introduce. If it be a bit of new machinery or similar article, they must be able to give instruction as to its use, and must be able to make repairs, if necessary. I have heard of a German typewriter agent here who has been most successful through attention to this last detail.

METHODS OF CONDUCTING AGENCIES.

There are several conceivable ways of meeting the requirement of having resident agents on the ground, and I find that there are three distinct methods employed here—the appointment of some resident firm as a simple "agency," the appointment of a local firm as a "sole agency," and the sending out from home of a special resident agent. The first of these seems to be open to very serious abuses which, in many cases at least, render it almost useless. There are well-known cases in Rio in which firms advertise extensively as agencies of American houses and actually have appointments as such, without making the slightest apparent effort to push American goods. In passing along some of the principal retail streets one can see shops whose owners advertise as "agents" of American manufacturers, in the windows of which American typewriters, cameras, etc., are marked with ridiculously high prices and put far in the background, nearly out of sight, while foreign makes of the same articles, much lower in price, are displayed prominently in front.

One of these men whom I have interviewed personally assured me that he was doing all he could to "push" the American products

which he represents, and he is probably making similar statements to his principals at home, who are too far away to keep closely in touch with what is going on here. If this instance stood alone it would perhaps not be worth while to emphasize it, but common rumor here speaks of numerous such cases and hints at irregular practices in the matter of commissions, etc. In short, our exporters who rely on this sort of representation are taking many chances, and can not be at all certain that their goods are given a fair backing.

THE SOLE AGENCY PLAN.

The "sole agency" plan, by which the agent not only becomes the only representative of his principal, but also agrees to sell no other goods of the same sort, is open to less serious objections, but it serves its purpose better for European than for American goods for the reason already alluded to, that our products are, many of them, comparative novelties on the market, and more persistent and undivided effort is required for their introduction. The best method of all, therefore, is one which has already been adopted by a few of our larger manufacturers, namely, the sending out of special resident agents whose sole business it is to introduce their goods, and who enter into agreements not to sell other articles or engage in other trade. If the home concerns are not strong enough to bear alone the expense of such a resident agency, several of them, manufacturing entirely different sorts of goods, sometimes combine to support an agency, and this method, though open to some objections, seems to meet with considerable success. And in either case, whichever of the two last-mentioned plans be adopted, the advantage of having in the field a man who thoroughly knows his customers and at the same time is devoted to the interests of his principals, is very great.

In the matter of arranging credits alone it is almost indispensable. There is absolutely no possibility of doing any large business here on the cash basis, and credit can be allowed only with the utmost caution. Men who have had longest experience in the field emphasize this point most strongly. After decades of residence here they find themselves making losses through misplaced confidence, and resort to the courts involves expense and delay which are generally prohibitive. A resident agent always on the alert and having direct access to the principal source of information (the banks) can do much to lessen the risks.

RESULTS OF AMERICAN ENTERPRISE.

One instance of this last sort of agency deserves special mention because of the very excellent results which have been attained—the agency of the Singer Sewing Machine Company. This company, as is well known, some years ago introduced new methods in their Mexican business, and with such success that they found it advisable to try the same plan in Cuba. Again they were successful, and in two years' time they had captured 90 per cent of the Cuban market. They have recently come to Brazil with precisely the same methods, and the indications are that they will meet with the same success.

The plan is, briefly, as follows: A sole agency is established in Rio de Janeiro, in which are men who have had experience both in the United States and in Brazil and who agree to engage in no other business than the selling of the Singer machine. This central house establishes branch agencies in all important centers throughout the country, these

latter being bound by a similar agreement to sell no other machines. The sales are then made on the installment plan, the purchaser signing a simple contract, drawn up in strict accordance with Brazilian law, to pay at regular intervals (usually one month) a fixed sum or to return the machine in good condition. The first payment, made upon delivery of the machine, is large enough to cover about 75 per cent of the factory cost of the machine, leaving only 25 per cent as the actual risk of loss through nonfulfillment of the contract. In practice the losses are very few and insignificant in amount, for the people are found to be regular and businesslike in their payments.

Such a method as this overcomes two of the greatest obstacles which confront the American exporter to Brazil—the risk of loss through ignorance of the financial standing of the local dealer, and the difficulty of disposing of goods which, though of acknowledged superior excellence, are high priced as compared with foreign goods of the same sort. This latter difficulty is one which is universally recognized here among dealers in American commodities. Our articles are too good to have large sale among a population who are as a rule extremely poor, if cash payment is demanded. The superiority of many lines of American manufactures is everywhere recognized, but the people can not afford to buy them, even though they are convinced that it is true economy in the long run to get the best rather than the lowest-priced articles. The installment plan just described gives them the opportunity to get the best on easy terms, and experience shows that they are ready to avail themselves of it.

LINES FOR EXPERIMENT.

The installment method is, however, at best, available for relatively few classes of goods. Yet it might well be worth a trial along several lines which have not as yet been touched. Safes, typewriters, scales, cameras, and perhaps certain classes of machinery would lend themselves readily to the experiment, and probably many other things could be added to the list.

I have spoken thus far mainly of the efforts made by American and European exporters to introduce their goods into this country. There still remains another side of the question to be considered—the attitude of the Brazilian importing houses. The bulk of the import trade is not so much through efforts of foreigners to get their goods to the market, as through the desire of native houses to get goods from abroad which they can sell to consumers at a profit. By far the greater part of the trade is done through large, long-established houses here, the majority of which are in the hands of Portuguese merchants. It is important, therefore, to inquire what are the reasons which induce them to prefer European to American goods, as many of them do. On this subject I shall report in my next letter.

CHILE in 1903 imported $4,271,000 worth of bags and sacks, of which England supplied $2,818,000, the East Indies $1,262,000, and Germany $188,000. These bags are composed of jute and of cotton, and are used for sugar, grain, flour, and bran, potatoes, metal, etc. A company to manufacture bags has been formed at Valparaiso with a capital of $1,300,000. Other manufacturing companies in this branch are projected.

FEELING IN RELATION TO FOREIGN COMMODITIES—REASONS FOR PREFERRING EUROPEAN PRODUCTS.

No. VI.

Special Agent Hutchinson's sixth letter is dated from Rio de Janeiro, July 14, and will be found highly interesting. He explains that preference exhibited for English products is mainly due to the fact that English capital is largely invested in Brazil and that those investments naturally exercise a decisive influence in procuring the importation of British products. The same character of influence, it seems, operates favorably to American interests, as shown in the illustrations cited by Mr. Hutchinson. What is said regarding the methods of conducting business and the importance attached to the credit system should be given careful consideration. The complaint about the careless methods of American packing, so frequently made, is repeated by Mr. Hutchinson, and information is furnished on this point which those exporting merchandise would do well to keep in mind. Mr. Hutchinson's letter follows:

In my fifth report, dated at Rio de Janeiro, July 7, I described the various methods employed by American and European exporters to introduce their goods into Brazilian markets. In the present report I beg to submit the results of my inquiries as to the attitude of importers here in relation to the foreign commodities which they purchase, and the reasons for the preference which they show for European rather than American products. I have interviewed many such importers in this city and a few elsewhere, and their opinions may be taken as representing pretty accurately the conditions which exist in all parts of Brazil.

The importers may be divided into three general classes, and their attitude as to the sources of supply of the goods which they purchase is determined, to a greater or less degree, by the particular nature of the business which they are conducting. There are, in the first place, men who are importing supplies for specific enterprises or undertakings, such as railroads, factories, harbor and dock improvements, street work, etc. In these cases there is an inevitable tendency, if the men in control of the work are foreigners (and they usually are), to get as large a share as possible of their supplies in the country whose capitalists control the particular enterprise. I alluded to this fact in my report from Pernambuco, and I have met with abundant confirmatory illustrations since my arrival in Rio. For the sake of emphasis it may be worth while to mention a few of these illustrations.

WHY ENGLAND IS PREFERRED.

The large English company which has taken the Federal contract for the great harbor and dock works in Rio de Janeiro get nearly all their material, ironwork, machinery, cement, etc., in England or Belgium. Another English company which holds several contracts in connection with the extensive city improvements which are at present

going on here does the same, in spite of the fact that a good part of their supplies, such as cement, might be obtained more cheaply in the United States. A cotton mill which I visited in Bahia—one of the largest of such mills in Brazil—which, although now under Brazilian control, was originally established by English capital, is fitted out exclusively with English machinery. This is, perhaps, not surprising in view of the well-known excellence of English textile machinery; but I find the same preference for English makes even in factories which use lines of machinery in the making of which the United States leads the world.

FLOUR-MILL MACHINERY.

For example, a few days ago I made a thorough inspection of the largest of the half dozen flour mills in Brazil in company with the manager and one of the London directors who happens to be here on a visit. With a few trifling exceptions, such as the scouring brushes and the dust separators, the entire outfit of this mill, which turns out nearly 2,500,000 sacks of flour per annum, is either directly or indirectly of English origin. I say "indirectly" because a considerable part of the machinery, though purchased from and marked with the name of an English firm, is in reality of German manufacture. All of this machinery is made on American patterns and is quite up to date. When I asked the manager why he did not purchase from American manufacturers instead of thus getting what are virtually American machines made in Germany, through an English firm, he admitted at once that it would be real economy to do so, and that he had for years urged that it should be done, but the stockholders and directors are Englishmen, resident in England. Many of them are also stockholders in the home concerns from which the purchases are made, and whatever they may lose through lack of economy in the flour business here is made good by the profits of these home establishments.

INFLUENCE OF AMERICAN INVESTMENTS.

The same sort of influence, of course, operates favorably to American interests in all the cases in which American capital is invested. A large American concern which is carrying out contracts here in connection with the city improvements is getting the bulk of its supplies from New York. Still another, which has concessions for work which will aggregate some $25,000,000, is using its influence in favor of American supplies. The following instance will illustrate how this influence may operate: It was necessary some time since to order a large quantity of steel rails. Bids were received from both American and European firms, the Belgian being far the lowest. Ordinarily such a bid as the Belgian would probably have been accepted at once, but the desire to purchase in the States prompted the sending of a cable to the American manufacturers which led them to meet the Belgian prices and thus secure the contract.

Imports of the sort I have been describing—those made for specific purposes—form, however, only a relatively small portion of the total foreign purchases of the country. Far more important are the purchases of the permanently established import houses carrying on business regularly from year to year. These are, roughly speaking, of two classes—commission houses and those doing business on their own account for sale to the retailers.

RELATIVE STATUS OF COMPETING NATIONS.

Until a decade ago the largest and most numerous importing firms were French and English, and their influence seems to have been most potent in determining the character of the import trade. The French houses have now, however, virtually disappeared from Rio, having been slowly driven out by more energetic rivals, and the total imports of merchandise from France have declined from an average of $20,370,000 per annum for the five years, 1894–1898, to $12,630,000 per annum for the four years, 1899–1902, a fall of 38 per cent. A great decline is also noticeable in the number and importance of the English houses, though they still exercise a powerful influence on the import trade and are showing some signs of renewed activity. They appear to be hard pressed by Portuguese firms, which are now said to control most of the trade, and by German houses, which are rapidly coming to the front both as to numbers and influence.

The situation seems to be this, that the largest actual share of the imports are brought into the country by the Portuguese firms, which are the most numerous, though probably as a rule not so strong financially as some of their competitors; that a very large but decreasing share is in the hands of English firms, which are among the oldest and best known houses; and that a rapidly increasing share is in the hands of German establishments. There are no American houses of any importance.

HOW BUSINESS IS CARRIED ON.

These importing houses carry on their business in two quite distinct ways; some of them act simply as commission merchants, buying merely on order from their customers and taking their profits from the commissions paid; while others buy on their own account and make whatever profit the state of the market makes possible. Often the same firm employs both of these two methods in varying proportions, and sometimes, too, they may act as agents of American or European exporters as well. But the fact that sometimes the various methods are thus combined does not alter the fact that they are really distinct ways of doing business and that their effects upon American success in these markets may be very different. The importer on "commission" is but little interested in the origin of the goods which he purchases; he orders simply what his customer wants, and is little likely to make any great effort to introduce new commodities. The purchaser on his own account, on the other hand, is more alert for the introduction of any goods which give him promise of a profit, and is more ready to listen to the claims of a new manufacturer.

It is therefore an encouraging feature of this market that the bulk of foreign purchases are made by this last-mentioned class of importers, and that there is nothing in their methods that can be called "discrimination" against American goods. The reasons for the comparatively small importation of goods from the United States are not to be found in the fact that the importing houses are English, German, or Portuguese; they must be sought for deeper down in the details of trade.

REASONS FOR PURCHASING ENGLISH PRODUCTS.

I have therefore endeavored in every possible way to get at the exact reasons which lead these importers to purchase European and

English goods rather than American, directly by interviews with the importers themselves, and indirectly through hearsay evidence. I shall enumerate as briefly as possible the reasons advanced:

1. One which I have already mentioned several times in previous letters, the peculiar conservatism of the Brazilian market. The people cling tenaciously to the kinds of goods to which they have been accustomed; the sizes, shapes, weights, marks, names, nationality, colors, even the shapes, sizes, and colors of the packages; all these and many other minutiæ play a part which no one can appreciate who has not had actual experience here. American manufacturers and exporters do not pay the proper amount of attention to these seemingly foolish details. I have met with no dissent whatever from this opinion. The English exporters, too, relying upon their strong hold on the market, have in recent years been careless in this particular, and part of their decline in trade has undoubtedly been due to this indifference. The Germans show the greatest care in this respect, and although their trade has not made the great strides here that are often attributed to it, the failure is due to other causes which will be mentioned in their proper place.

THE ITALIANS SUCCESSFUL.

2. Another reason, already mentioned in previous letters, is in the case of many American goods, especially machinery, the superior excellence and consequent high price of our products. Much of the success which the Germans have had in getting a foothold in the market is universally attributed to their ability to produce cheap goods. They seem, however, to have overdone the thing, and one hears on all hands complaints that their goods, though cheap and though made in the styles the people want, are often flimsy and worthless. This probably goes a long way toward explaining the fact that in spite of their efforts, and in spite of their successes in some lines, their general trade with Brazil has declined in the last ten years. The Italians, on the other hand, seem to have found the golden mean; their goods are cheap, yet at the same time satisfactory as to quality, and they alone, of all the chief exporting peoples of Europe and North America, have made absolute gains in Brazilian trade in the past ten years. More will be said in another report as to the causes of Italian success. Their ability to manufacture good goods at low prices is only one of them.

THE CREDIT SYSTEM.

3. The unwillingness of American exporters to extend credits as freely as their trans-Atlantic competitors. Among the older and better known importing houses here this complaint is not often heard: but new firms, and even old ones attempting to open new connections in the United States, find this unwillingness a distinct handicap. There are several methods in use by foreign exporters for collecting for goods shipped to Brazil, but by far the greater part of the business seems to be done on a ninety-days' basis. Americans often refuse to grant any credit at all, demanding payment in New York before shipment of the order. In the case of English goods, a ninety-days' draft usually accompanies the documents and upon its acceptance the latter are delivered to the importer by the bank. Often even the

acceptance is not insisted on and the documents are delivered upon verbal promise to pay on maturity of the draft. In this respect, again, the Germans have surpassed all their competitors, and have overdone the matter to such an extent as to meet with heavy losses in a considerable number of instances.

RELIABLE PERMANENT AGENCIES.

The reluctance of American exporters to grant credits is, of course, natural and, in itself, is in accord with good business practice; but there is no hope of doing extensive business here on that basis. The American exporter must give the same accommodation as his rivals if he expects to capture the trade, and the only way, at present, of doing so seems to be in the manner suggested in my last report—the establishment of thoroughly reliable agencies on the ground, whose business it shall be to keep their principals thoroughly posted. At present the difficulty is, it is true, overcome to a certain extent, but in a way which can hardly be called satisfactory. Being unable to make satisfactory terms with the manufacturer, the importer is forced to turn to one of the few American export houses who make it their business to know the standing of Brazilian firms, and are therefore able to grant the desired credit.

The method itself, if properly operated, is an excellent one, and a good part of the import trade from Europe is managed in this fashion, but the difficulty in the case of the United States is that our export houses are far less efficiently managed than those in Europe (at least so far as South America is concerned) and their charges are higher. I have met a considerable number of importers, and have heard of many others, who have been obliged to abandon direct dealings with the United States and are now getting their American goods through commission export houses in France, Germany, or England. The goods themselves are usually shipped direct from New York to Brazil, but the orders for them are sent in through the European middleman, who thus becomes responsible for the credits and who charges usually 3 per cent commission for his services. There is no good reason why a large export house, specializing on South American trade, should not be established in New York and be able to carry on the business as efficiently and as cheaply as one in Bordeaux or Hamburg. This is a matter which has not yet received sufficient attention.

COMPLAINTS AGAINST AMERICAN METHODS.

4. There is universal complaint as to American methods of packing goods for shipment. This fact has been so often and so persistently alluded to in our Consular Reports that it would be superfluous to mention it here were it not for the fact that the abuses continue. In spite of repeated protests, many American shippers continue to pack their goods (as one merchant put it rather picturesquely) as if they were to be carried by messenger boy from the battery to Forty-second street. That, of course, is a gross exaggeration. The truth is that they pack as if the goods were going to Europe, forgetting that the methods of handling freights in South America are utterly different from those which are customary in the more advanced commercial countries. There is at present but one Brazilian port (Santos) at which any but the small coasting steamers are able to dock.

American or European freights are all lightered to the shore from the steamer lying from 1 to 3 miles from the landings. The lighters

are simply large, flat-bottomed barges, with adjustable covers for use in bad weather, and the goods are lowered into them by the steamer's cranes hurriedly and in more or less helter-skelter fashion. Bags, bales, barrels, and all shapes and sizes and weights of cases may be loaded promiscuously into such a barge, and the durability of the packing is tested to the uttermost. It is no uncommon sight to see a barrel of cement, for example, let down from the steamer on the top of a slingful of miscellaneous merchandise, the moment the ropes are loosened roll and tumble down 15 or 20 feet into some remote corner of the barge, hitting en route all manner of edges and corners of cases already in place.

CUSTOM-HOUSE METHODS.

At the custom-house landing comes a second handling, but little less trying. Steam cranes are almost unknown, and the hand cranes in use are not handled with much precision. Heavy goods, especially, often get severe knocks and jars, are often lowered suddenly and with great force upon some stray bit of iron or stone or bit of merchandise which happens to be lying about the landing, and the flat sides of cases which are not sufficiently fortified with cross braces of wood are frequently smashed in. The contents are thus often damaged, or what is equally annoying to the importer, small pieces of fittings, etc., are lost. In every port which I have visited I have personally inspected the goods lying on the custom-house wharves and have watched the processes of landing. In almost every instance in which goods have been damaged they have been those from the United States, and this in spite of the fact that the quantity of freight coming from Europe far exceeds that from the United States. My own observations merely confirm what is common knowledge here. I have not met a single importer who has not had his grievance on this point.

The French, on the other hand, are universally praised here for their excellence in the matter of packing, the percentage of loss from breakage, etc., in the case of their goods being extremely small. English and German packing is reported to be inferior to the French but far better than the American.

AMERICAN ENTERPRISE SPASMODIC.

Much complaint is also made as to the spasmodic character of American enterprise in the Brazilian market. A dull year in the domestic markets of the United States sends a flood of circulars and a horde of commercial travelers to South America in an attempt to get rid of surplus product. Usually these efforts are fairly successful, merchants here being induced by the excellence of the goods or by unusually low prices to enter into American connections. But the moment the home market shows improvement the American exporter grows indifferent and neglects or postpones attention to his South American orders. In short, Brazil is looked upon as a convenient dumping ground in times of need while the demands of more regular trade are neglected.

This complaint I find is quite as universal as the one concerning careless packing. And in some cases the neglect takes the most exasperating forms. For instance, I was told a few days ago by one of the largest importers of goods from the United States, a man who fully recognizes the excellence of American manufactures and the possibilities of development of our trade, and who is anxious to do a

larger business with us, that he has almost despaired of increasing his American purchases or dealing with any but a few of the largest and best known American firms. He told me of numerous cases in which, after forming new American connections solicited by the Americans themselves, he had had his orders neglected, or his shipments delayed, for months or even abandoned entirely, with no more satisfactory excuse (to him) than that the factory was "too busy" on other orders. Such connections he naturally abandons at once and for good.

THE KEYNOTE OF AMERICAN FAILURE.

This last complaint really strikes the keynote of the whole difficulty; American exporters have not met with greater success here largely because they have not made sufficiently persistent effort. There is not an importer here with whom I have talked, whatever his nationality, who has not told me emphatically that there is a big trade awaiting the Americans the moment they are ready to take hold of it with persistence and determination. But spasmodic efforts in the long run do more harm than good. The opinion just expressed that Brazil is ready to take American goods in very large quantities as soon as American manufacturers are ready to spare sufficient time from the demands of the home market to give proper attention to the peculiar needs of this southern continent is confirmed by the figures given in my fifth report. (See Consular and Trade Reports, August 10.) There it is shown that in spite of certain handicaps, which our exporters suffer, in spite of the inadequacy of our methods as outlined in the present letter, our exports have suffered less in the past ten years of Brazilian depression than have those of any of our rivals with the single exception of Italy. There is every indication that a relatively little effort in the right direction will turn our present decreasing trade into an increasing one. In fact there are certain lines of our export trade in which there is already marked improvement, and I shall hope in my next report to present figures which show what those lines are, and to examine the causes of the satisfactory condition of their export.

WHAT MUST BE DONE TO EXTEND AMERICAN TRADE—LACK OF MAIL AND TRANSPORTATION FACILITIES.

H. T. Willis, who is traveling in foreign countries to report on trade conditions as the special representative of the New York Commercial, furnishes that journal with an interesting letter from Rio de Janerio under date of July 25, in which he points out some of the necessary steps to be taken in order to insure extension of United States trade with Brazil. Mr. Willis confirms and repeats important facts and renews suggestions contained in the letters of United States Special Agent Lincoln Hutchinson, which were printed in Consular and Trade Reports in the months of July and August, and which are given additional value and emphasis by the correspondent of the New York Commercial. The letter of Mr. Willis follows:

On looking into the trade situation I find that while our goods are on sale yet the German goods seem to predominate, and this applies to

the general line of merchandise, but especially to hardware, electric supplies, and machinery. The English trade shows some falling off, as it is stated that in textiles especially the English manufacturers will not meet the new conditions, will not manufacture the kind of goods which the people want, and in this way much of their trade has drifted away to the Italians, who are getting a strong hold on Brazilian trade, more especially in the south.

The question of German competition is a very important and very interesting one. I have in recent letters spoken of their activity in every branch of trade, their quickness to grasp a new field or a new possibility, and the facilities they offer to customers in showing them samples of goods at their own doors instead of sending a lot of catalogues which half of the time are not understood. They have an army of salesmen all over the place, but the real progress of the Germans in this country is in the bigger things, where the moral effect is so great that the battle is half won. This is so important as affecting our interests that it is wise to go into particulars.

OCEAN TRANSPORTATION.

The shipping question is receiving much attention just at present, the more so when we learn of the German activity. There is to-day an excellent service, both freight and passenger, from Hamburg to all the large Brazilian ports; and not content with this, an increased service has recently been arranged for, which provides six steamers of 6,000 to 8,000 tons especially adapted to this trade. Further than this there are ways whereby the German merchant is enabled to deliver his merchandise cheaper to his customer, especially in the smaller ports, by a saving of freights, and yet is apparently keeping to the conference rates.

The freight rates between the coast towns are excessively high—between Bahia and Victoria, for instance—almost as much as from New York to Para. This is the case all along the line, and it is easy to be seen that the object is to protect the Brazilian shipping. These local boats are all obliged to carry the Brazilian flag and therefore a through bill of lading from New York to one of the coast ports, which is not touched at by the direct-line service, carries a freight rate nearly double the rate to the direct port, to say nothing of the transshipping charges which are excessively heavy.

ALERTNESS OF THE GERMANS.

Quick to see the opportunity, German capital has stepped in and has virtually acquired the control of the Brazilian line and has also put on a coast line of its own, but flying the Brazilian flag. It is possible that the actual rates of freight as they appear on the bill of lading represent the full figures, but it is easy enough to make rebates in Germany, which reduce the c. i. f. figures.

I am informed upon the best of authority that such a reason does exist, and the way for the United States to meet it is to go one step further and have our own boats or those controlled by us stop at certain of the intermediary ports and thereby do away with the transhipping charges. It has been very gratifying to learn that the first step is being taken in that direction. I have been informed that negotiations have about been concluded for the purchase of the Lloyd Brasiliero, the Brazilian Steamship Company, by United States interests, who

propose working in harmony with this Government. The price is not yet divulged, but it is rumored that the amount involved is not far from $3,000,000. This price is less than the estimated value of the holdings, and it is assumed that the present stockholders may retain an interest in the new arrangement. It is hoped that no hitch will occur, for this means much in our efforts to get a stronger position in this market.

AMERICAN LINE FROM NEW YORK.

In connection with the Brazilian local line, it has been proposed that a regular and better service of steamers run to these ports from the United States. The consensus of opinion seems to be that a semi-monthly service of steamers of the first class should be put on between New York and Brazil, having just as good saloon accommodations as are found to-day on the Royal Mail and the Hamburg American lines, for the reason that the moral effect on the Brazilians would mean a great deal. They are accustomed to consider Europe first in almost everything connected with travel and education, and have considered that we only put on cargo boats, some with limited space for passengers when it suited us so to do. Whereas if fine steamers were seen in the Brazilian ports, flying the Stars and Stripes (and it is a rare sight to see the American colors here except on an occasional sailing vessel or yacht), the business and travel between the two countries would unquestionably be stimulated.

BETTER POSTAL SERVICE NEEDED.

The importance of a regularly timed mail service is also worthy of comment. At present there is no certainty as to the arrival of mails, and this is the fault at New York rather than here. To-day letters are posted in our American post-offices and from the New York office are forwarded by any steamer chancing to leave for these ports, whether a cargo or mail boat, and sometimes are sent indiscriminately via England or France. The most of our people have little idea how the letters get to Brazil, especially those in the interior. I have seen in the last two months several evidences of ignorance, where an accumulation of Brazilian mail matter has been put on a slow cargo steamer, when only two or three days afterwards a direct steamer sailed from New York which was due to arrive three or four days before the first boat could possibly make the trip; or the mail would be put on a Para steamer, simply because she was headed for Brazil, when a little inquiry would have brought out the fact that Para is about halfway to Rio de Janeiro, and that the mails to Rio must be transferred to the local boats, which may or may not leave for a week or more and may take fifteen to twenty days for the journey.

These are facts, and any one familiar with the business of Brazil will readily see the trouble which is occasioned, to say nothing of the loss in time. Goods arrive at their destination long before the mail, and are not only held in the custom-house at heavy storage rates, but are subjected to a fine if an endeavor is made to make an entry without a consular invoice. Goods for transshipment are even in a worse predicament, for, if there is no connecting steamer, they can not go forward, and there may not be another for a month. Remittances are at "sixes and sevens." In fact, the entire system is the cause of untold

trouble and loss. Even on the present basis of our facilities to Brazil, a little care and inquiry would obviate much of this trouble.

This is one step toward building up our trade with Brazil. The merchants here can not comprehend all this. They think the blame is with the merchants who have filled their orders. They send a memorandum of their losses to these merchants and find there is no remedy, and they then turn their attention to other and more certain markets, and we lose their trade. I have gone into this question of mails because it is really a hardship, and by finding a remedy we remove one cause of discontent, and make business easier between the two countries. Further than this, it can easily be seen what a regular and direct service between United States ports and Brazil would mean, in addition to what has already been mentioned.

ROOM FOR AMERICAN BANKS.

One of the greatest advantages would be the increased facilities for finance. This alone is a sufficient reason, to say nothing of the others. At present almost the entire exchange of moneys is done through England. Bills are drawn on English banks from both sides. This is, of course, likely to continue to a large extent, or at least until we have American banks in Brazil. We certainly do in volume a large enough business to warrant American banks here, even in spite of the balance of trade; but this question of a direct service of steamers would have a considerable bearing on the financial question, and it would certainly have a very important bearing on the trade relations with this great country.

It is easy to see that as far as Brazil is concerned there seems to be only one answer to the shipping and mail problem, and that is to have a service that is not only equal but superior to that of our various competitors. The Brazilians like us as well as they do any other nation, and as far as our goods and machinery are concerned, all things being equal, they would give us the preference.

CONDITIONS FAVOR THE UNITED STATES.

The following figures regarding the entire trade with Brazil may be interesting, especially as they show a comparison with Germany. It is as well to add, however, that the last three years show an increase in favor of Germany, as that country has met certain obstacles fairly and squarely and has forged ahead of us. But we have no reason to throw up our hands. The conditions are in our favor, if we will only profit by them, and we can go ahead faster toward an increase of our trade with this country if we really try:

All commodities.

Country.	1894–1898.	1899–1903.	Percentage of decrease.
United States	$68,800,000	$56,100,000	18.5
Germany	68,500,000	50,200,000	22.5

Manufactures only.

United States	$39,306,000	$35,329,000	10.1
Germany	65,469,000	50,214,000	23.3

RESIDENT AGENTS NECESSARY.

The necessity of agents who are constantly on the ground, who know how to approach customers, and are familiar with the customs and requirements is a most important one. I have had many proofs of this. In two instances I called on merchants in Rio and explained the advantages of a certain class of American-made goods over any other. One merchant, who was a native and had a very prosperous business, began to question certain things. While I was not a salesman representing the goods, yet I had a fair knowledge of their worth and their superiority over those made by competitors, and at the same time was fortunate in having samples of the goods made in the United States, and had been in the factory and had seen them turned out.

I explained all this to the merchant, and he was apparently convinced that it was at least worth while to make a trial of them and decided to give an order as an experiment. This has occurred in more than one instance and is proof positive that a man with the proper equipment and possessing the technical knowledge would surely succeed in doing a business here which would warrant a resident agent. I further find that there are many goods in the line of novelties which we manufacture that we can introduce with a fair amount of effort.

GERMANS WILL BUILD RAILWAY.

Telegrams have just been received here by private parties who have been negotiating the proposition for a long time, announcing that the concession for a new line of railway in the State of Santa Catharina has finally been taken up by German capital. The details, in a few words, are as follows:

Blumenau, in the above-mentioned State, is a city of upward of 80,000 inhabitants, almost entirely of German birth, a colony having started there some thirty or more years ago. Harmonnie is another important German colony, about 75 kilometers distant from Blumenau, and the first section of this new railway will connect these two cities. The road will then continue up the west bank of the Itagahy River about 200 kilometers, and later on it is proposed to extend farther north, opening up a very rich agricultural and timber country and eventually connecting with the main line of railway in the State of Sao Paulo. For the first portion of this work an appropriation has been made of 23,000,000 marks, about $6,000,000, by the German syndicate.

In this group the Hamburg-American and North German Lloyd steamship companies figure largely; in fact, Doctor Wiegand, a managing director of the latter, is said to be the president of the new company. In Hamburg 5,000,000 marks have been deposited as first payment. The port of Itagahy is at the mouth of the river of the same name, and dredging will shortly commence so as to make this port capable of allowing steamers of large draft to enter. The river also will be widened, and surveys for all this and the work on the railway will be made at once. It is easy to see that the German steam lines will materially benefit by this arrangement and that the already extensive hold which the Germans have in Santa Catharina will be largely augmented. This will also affect through freight rates to ports south of Itagahy.

NEED FOR AMERICAN STEAMSHIP LINES.

In his annual report, covering the year 1904, United States Consul Henry W. Furniss, of Bahia, writes as follows concerning the need for an American steamship line to run between the United States and the port of Bahia:

I have to reiterate my oft-repeated report of the need for an American steamship line. The mail service between the United States and this section of Brazil during the year just past has become much worse than heretofore, due to the withdrawal of one or two monthly boats. As a result, of the cargo offering here for the United States, and the frequent call of vessels to get it, coupled with the fact that Brazil requires all steamers to take mail, there have been frequent calls of vessels to get mails from here, but there is only one regular boat bringing mails from New York. Between times, letters are sent hither from New York by various roundabout ways.

This has virtually paralyzed the mail service. For this reason it is frequently the case that mail sent from New York in the middle of a month arrives here days after the mail leaving New York on the first of the ensuing month. This causes great prejudice to business, as the mails arriving last often have bills of lading and custom-house documents for goods arriving by the prior steamer, necessitating extra expense, vexatious delays, and great trouble to withdraw from the custom-house here, which seriously hurts our trade.

It is impossible to maintain trade without frequent and rapid mail service. With the lack of this to contend with and the high freight charges out of New York, it is not to be wondered at that year by year our trade with this section is growing less, while the balance of trade in favor of Brazil is increasing.

The present lines from New York seem to prefer high freight and little business, and make up by sending their vessels on a triangular course, viz, from Brazil to the United States, from the United States to Europe, and then from Europe, with European goods, to Brazil, with only a few vessels going and coming between Brazil and the United States direct.

The German steamship lines are making preparations for an increased service with Brazil. With the aid given by these lines German trade has increased even more rapidly than ours is decreasing, and with the contemplated further increase in its fleet the outlook for German trade is even brighter than heretofore.

GOOD OPENING FOR AMERICANS.

Consul-General Eugene Seeger, of Rio de Janeiro, under date of July 5, supplies the Bureau of Manufactures, through the State Department, with two letters written to him by Brazilian merchants requesting to be furnished with names of manufacturers in the United States of agricultural implements and structural iron. The letters were written in confidence, and for reasons that will be understood by business men the names of the writers are withheld. The letter from the firm dealing in agricultural implements, and which has been making its purchases from English houses, is here given:

A few months ago we ordered, through an English firm established here, several American machines for agricultural purposes and were

so satisfied with them that we forwarded new orders. Unfortunately we find that the machines received are of English make, and copy exactly the American type and system—being notwithstanding of inferior quality. Therefore we shall be very thankful if you will furnish addresses of American factories for plows, cultivators, harrows, and other implements, because we intend importing such articles directly in future, so as to avoid imitations.

The other letter, written by a firm in Rio at present representing iron contractors and builders of France and Belgium, is as follows:

As we know you take a great interest in promoting the commercial and industrial relations between the United States of America and Brazil, we take the liberty to make the following proposition, which we would like you to consider:

We are representatives in Brazil of several iron contractors and builders of France and Belgium, and, as you know, all European iron merchants have formed a syndicate to sustain prices of their products. It may be a good opportunity now for a new competitor, without such engagements and in a position to compete with the European industries, to enter this market, particularly as several important North American companies were formed in Brazil a few months ago. What should not Americans do here that they do successfully in Europe?

We would be much obliged to you if you could put us in connection with a good steel factory and important rolling mill, and iron founders and constructors, able to supply us with iron frameworks, bridges, etc. We are perfectly sure that many North American iron and steel manufacturers are in a condition to work as cheap as any European competitors and to give the same credits. You are here long enough to testify to the rapid expansion of the German trade in Brazil, and to be informed of the means employed by firms to win the commercial supremacy. You know the great facilities of payment by the German factories to their customers. There is no reason why North American merchants should not do what others do.

Parties desiring to communicate with these firms can obtain their addresses by writing to Eugene Seeger, Consul-General, Rio de Janeiro, or they will be furnished upon application to the Bureau of Manufactures.

COMMERCE WITH PRINCIPAL NATIONS.

The monthly journal of the German-Brazilian Association, published at Berlin, Germany, in an article on the commerce of Brazil, gives a table showing the participation of the several countries named in the export trade of Brazil in 1903 and 1904. Following is the table, the figures showing the percentages:

	1903.	1904.		1903.	1904.
Germany	14.83	13.93	France	9.45	5.07
Austria-Hungary	2.71	2.79	Great Britain	19.33	16.17
Belgium	1.90	1.61	United States	41.21	50.31

The total value of Brazil's exports in 1903 was 742,632,278 milreis, equal to $405,477,223, and in 1904 776,041,839 milreis, equal to $423,718,843.

COLOMBIA.

PROVISIONS OF THE NEW MONETARY LAW.

Mr. Alben G. Snyder, secretary of legation at Bogotá, furnishes a copy of the law recently enacted by Colombia reorganizing the monetary system, which will become operative on the 1st of January next. The following extracts are taken from the law:

ARTICLE 1. The monetary unit and current money of the Republic is the gold dollar, divided into 100 cents, 1.672 grams weight, and 0.900 fine.

ART. 2. The other gold coins are: Double condor, of the value of $20; the condor, of the value of $10; the half-condor, of the value of $5.

ART. 3. There will also be silver coins as follows: The half-dollar, value 50 cents gold; the peseta, value 20 cents gold; the real, value 10 cents gold.

ART. 4. Each one of the coins mentioned in the previous articles will be of 0.900 fine and the weight corresponding to its value, relative to the gold monetary unit.

ART. 5. For the purposes of minting the silver and fixing the values of the coins, each gram of gold of 0.900 fine will be considered as equivalent to 33 grams of silver.

ART. 6. For each $100 of gold put into circulation there can only be put in circulation $10 of silver.

ART. 7. If the Government deems it necessary for smaller transactions it may also order the minting of fractional coins of nickel, copper, or bronze, with sufficient aluminum, of the values of 5, 2, and 1 cents, and not to exceed 2 per cent of the amount of gold in circulation.

ART. 8. The paper money legally emitted by the old National Bank and by the departmental governments will continue to preserve its character of forced currency and its independent powers according to the following rules:

(1) It is in the power of all classes of contracts or transactions, civil or commercial, be they official or private, to state freely any class of domestic money or foreign gold; and

(2) In those parts of Colombia where the legal medium of exchange is silver, this will pursue its free power in relation to the price the standard of gold may have in the market, and contracts may be freely made in said money.

ART. 9. The obligations contracted, or which may be contracted in business with the exterior, shall be fulfilled in accordance with the provisions of article 203 of the Codigo Comercio.

ART. 10. The obligations which may be contracted in Colombian money or in those in which no special money is stipulated will be understood to have been contracted and will be paid in the gold money treated of in the first two articles of the present law, or in its equivalent in paper money at the rate of exchange of 100 paper pesos for $1 gold.

NOTE.—The obligations in which paper money is expressly stated will be canceled in this money.

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ART. 13. The national silver coins known as ancient money, as the pesos of eight-tenths, and the coins worn in use will be classed with the money of 0.835 fine for the purposes of changing same for the new national money. The Government is authorized to recall, whenever it may deem it convenient, all old silver money circulating in the country in order to change it for those expressed in the present law, in the proportion which corresponds to it according to its value; the coins thus taken up and those received in the national treasury will be recoined in the mint.

ART. 14. Individuals, both native and foreign, are prohibited from importing silver money.

ART. 15. In every contract in which money may enter, the expressions peso or pesos will be understood as always referring to the gold standard which this law establishes.

ART. 16. Domestic or foreign moneys which may be introduced into the country will be confiscated.

ART. 17. The executive power is authorized to set a date when the circulation of moneys of 0.835 fine shall cease, and when a commission can stipulate up to 5 per cent in favor of the bank, company, or individual who may make the operation and can defray the loss which it causes up to 30 per cent.

ART. 18. The national offices are prohibited from receiving foreign gold which, from natural or artificial deterioration, does not possess the legal weight, and they are also prohibited from receiving native gold or silver coins which may have been pierced or cut.

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PAPER CURRENCY REDEEMED IN GOLD.

The new law provides for conversion of paper money now in circulation into gold, and President Reyes has issued a decree directing that 25 per cent of the yield of the new revenues shall be set aside for that purpose. In the preamble it is declared to be a matter of urgent necessity that measures shall be adopted for depositing abroad the necessary funds in gold for the introduction of the metallic currency before the 1st of January next. The preamble continues:

That the easiest and most expeditious means, as also the surest, for holding abroad the funds disposable for the coinage of the metallic money to be introduced for the conversion of the paper currency, is that of destining for this purpose the total yield of a revenue, payable in gold and other resources of the same nature, which can be disposed of without embarrassing the other administrative services.

That the revenue on hides is that which can yield most easily and with due regularity, in foreign countries, the necessary funds in gold, not only for the direct and immediate conversion of paper money, but also as security for any operation requiring credit, which will allow of the increase of the funds for conversion and hasten the elimination of the national bills.

IT IS THEREFORE DECREED:

ARTICLE 1. From the 1st of July next (1905) the revenue on hides will be levied throughout the Republic. The yield will be set aside for the acquisition of metallic money for the conversion of the national

bills, and all national or departmental slaughter taxes on animals killed for public consumption are hereby abolished.

ART. 2. The ministry of finance and treasury will proceed to come to an arrangement with the farmers on the slaughter tax in the departments where the said tax has been framed, to substitute for the same the levying of the tax on hides, and the value of the tax, no longer levied, will be recognized in favor of the respective entity.

ART. 3. The Central Bank will organize, with the approval of the ministry of finance and treasury, the administration of the revenue on hides, so as to insure the highest possible yield and the sale of the article abroad.

ART. 4. The funds proceeding from the revenue on hides, abroad, will be deposited by the Central Bank in a bank of recognized solvency and respectability, to cause to be coined, month by month, the metallic money necessary for the conversion of the national bills, from the month of January, 1906.

ART. 5. The yield of the revenue on hides shall be credited as being equal to 25 per cent of the new revenues, destined for the conversion of the paper money, in the first year and 50 per cent in each succeeding year.

ART. 6. If the yield of the revenue on hides is not equal to 25 and 50 per cent of the yield of the new revenues, it will be supplemented from the emerald mines.

ART. 7. If the situation of the treasury permits, the entire yield of the emerald mines of Muzo and Coscuez, that of the export duties, and whatever may be received from the Panama Canal shares shall also be appropriated from the 1st of January next for the introduction of metallic currency, for the conversion of the national bills.

ART. 8. The ministry of finance and treasury is authorized to intrust the Central Bank with the administration and management of the taxes and revenues, which have so far been under the direction of the national council of amortization, as also the Sabana Railway, until a special contract relative to the matter shall have been concluded.

ART. 9. The metallic currency introduced by the Central Bank in accordance with the provisions of this decree will be laid down by articles 1, 2, and 3, of law 59, of the 30th of April, 1905, and in conformity with the decree issued on the subject. The bank can also introduce up to 2 per cent in fractional currency, of nickel, copper, or bronze, with sufficient aluminum, according to the provisions of article 7 of the same law.

ART. 10. If it is necessary to obtain a loan abroad to increase the funds for the conversion of the paper money, and thus bring about this conversion in a shorter space of time, the Central Bank may appropriate the revenues referred to in this decree to guarantee the said loan. This action can not be taken without the approval of the Government.

ART. 11. The Central Bank will publish, in the first days of every month, a statement respecting the sums of paper money exchanged for metal during the preceding month.

RELATIONS WITH THE UNITED STATES.

Writing on the trade of the United States with Colombia, Mr. Cortes, fiscal agent of that country in the United States, says:

There is no reason why the United States should not obtain and hold a large part of the trade of South and Central America. The

cordial relations existing between these parts of the American continent, the first essential in securing and maintaining successful trade relations, already exist. The geographical position of the United States contributes much toward the successful and rapid facilities for the transportation of goods to South and Central America and for the importation of products of Latin American countries into the United States. A point of great importance is the fact that the United States products, both of farms and factories, are precisely those most needed by South and Central America. Under these conditions it certainly is not too much to expect the United States to receive, in the future, a large part of the Latin American trade. In agricultural implements and in all classes of machinery this is particularly true. This class of American products is much better suited to the wants of Colombia and the other South American republics than are any others. The classes of cotton goods and other products of the factories of North America have already found favor with the people of Latin America because they are of better quality than are those imported from Europe.

The principal reason for the preference given to the manufactures of England and Germany in Latin-American countries is found in the fact that the manufacturers of these countries have inundated Latin America with catalogues and circulars printed in the Spanish language. American manufacturers are beginning to manifest an interest in the trade of South and Central America, and the results are already beginning to appear.

AMERICANS BECOMING AROUSED.

It is gratifying to note that most of the manufacturers of the United States are beginning to introduce a better system of packing and boxing and transporting their merchandise to South America. Up to the present time the manufacturers of the United States, owing to the demands of internal trade, have not been able to find time to study conditions for selling abroad; but exporting merchants have understood the importance of packing their wares in light boxes for the purpose of transportation over the narrow and sometimes undeveloped roads of the Latin-American countries.

A movement at present finding considerable favor is resulting in sending traveling agents who speak Spanish and other languages to the countries with which it is desired to trade. This indicates that American manufacturers have begun in earnest to study commercial conditions of the countries of South America with which they desire to do business. The Republics of South and Central America have never had in all their history such brilliant prospects as at present, nor a tendency more favorable to the interchange of trade with the United States. Colombia, for example, has begun works which will certainly result in securing augmentations in the demands for the products of the United States.

President Reyes, whose term of office has been extended for ten years, is very much interested in the prosperity of his country, and is doing all in his power to advance it. One of the most important aims of his administration is to secure better means of communication. He has entered into contracts for the construction of a large railroad in the interior of Colombia, and the largest part of the capital and machinery necessary for this line will be found in the United States. Regarding

the highways as arteries of trade in the interior, and desiring to lessen the deplorable conditions that have existed in the transportation of Colombia up to the present time, President Reyes has commissioned the Colombian army to carry on the work of making good roads. When he has finished this work and when American manufacturers give more attention to packing their products, then we can confidently hope to see that Colombia will play a large part in the commercial transactions of the United States.

DISASTROUS DROUGHT.

Secretary Snyder, of Bogotá, writes that, owing to the unprecedented dry spell, conditions are such in parts of Colombia as to almost approach a famine. Crops have been ruined, cattle are dying, and prices have risen enormously. In fact, things have arrived at such a point as to move the Government to take a hand and put into operation measures looking to an amelioration of the present conditions.

The President has issued circulars to all the departments asking for a statement of the prevailing conditions, and intends introducing into the country large quantities of corn, rice, barley, flour, beans, etc., mainly from the United States, to be sold at the lowest possible price in order to relieve the widespread suffering. Circulars have also been sent to the heads of all transportation companies in Colombia asking that they move these articles free of charge.

The outlook is discouraging, but it is hoped that the present energetic measures adopted by the Government will help toward stemming the crisis until things are again in their normal condition.

ARGENTINA.

EFFORTS TO CONVERT THE NATIONAL DEBT.

On June 3 Minister Beaupré, writing from Buenos Aires, calls attention to the efforts of the Argentine Government to convert the national debt into lighter interest-bearing bonds. He says:

The Executive sent to Congress the long-expected project of the minister of finance for the conversion of the external and internal debts of the nation. By the terms of this project it is planned at first to retire the 6 per cent bonds. These are known as the Morgan funded debt and bear interest at 6 per cent and 1 per cent amortization. In place of these the Government is authorized to issue bonds of foreign debt-bearing interest at 4½ per cent and one-half per cent amortization. The present 6 per cent bonds are guaranteed by the customs duties, and while the latter constitute the principal source of revenue with which to meet the debt obligations of the nation, it will be a matter for satisfaction to be relieved of any specific charge upon them. By the terms of this project the Executive is further authorized, if or when the operation shall be deemed advantageous, to proceed to the payment and withdrawal of the 5 per cent bonds of foreign debt of various issues by means of bonds of foreign debt-bearing interest at 4 per cent and one-half per cent accumulative amortization.

As to the internal debt it is proposed to retire the 6 per cent bonds of various issues in one or other of the following ways:

First. By offering to the bondholders home bonds at par, bearing interest at 5 per cent and 1 per cent amortization. Those who accept this arrangement may be paid in cash a sum not exceeding 3 per cent of the nominal capital; or,

Second. In case the holders of the 6 per cent bonds prefer payment in cash at par, the Executive may negotiate either here or abroad the corresponding 5 per cent bonds created by this law or utilize the resources of the treasury or of credit, home or foreign, to this end.

This project has not met with the cordial reception expected because it promises the immediate conversion of only a part of the debts and that at a higher rate of interest than was anticipated. It is, however, undoubtedly a wise arrangement, is the result of long and careful study by the minister of finance and the representatives of foreign banking houses, and I have every reason to believe will be adopted by Congress.

As this matter, though still in project, will have its effect on the nation's credit and may therefore be of interest to the Government and bankers of the United States.

LAWS FOR PROFESSIONAL MEN.

Minister Beaupré writes from Buenos Ayres to the Department of State that an act passed by the Congress of Argentina June 26 regulates the professions of engineers, architects, and agriculturists. By the terms of the law it is required that all civil and mechanical engineers, architects, chemists, agronomists, and surveyors, with the exception of those already established and of special foreign experts, to whom, for lack of corresponding native talent, the executive may be compelled to intrust special tasks, must, in order to practice their professions in Argentina, have received diplomas from the universities and special schools of the nation, or, if holding titles from foreign institutions, must "revalidate" their titles in accordance with the regulations here in force.

The general intention of this law is to provide for the uniform qualification of those who practice the professions in question, as has long since been done in the case of physicians, dentists, etc. As in these last-mentioned cases, for the purpose of "revalidation," the applicant will be required to pass examinations in the whole matter of his profession. That will necessitate the reviewing, if not the repetition, of his studies.

BOLIVIA.

ANTHRACITE ENGINES FROM GERMANY.

A British consul in Bolivia in a recent report says that for the last two years anthracite gas engines have been imported into Bolivia from Germany to take the place of steam engines. The lack of fuel is very severely felt in Bolivia. Coal as common fuel is out of the question, as a ton is worth $40. All the tin mines are from 6 to 50 miles from railroads. The cars for the transportation of the products

of these mines come from Chile and the wagons from the United States. Hammers, shovels, and picks are mostly of American or German make, also hand cars and steel rails. There are no direct importers of such British articles at Oruro; if British articles are wanted, they are ordered from a firm at Valparaiso. During the recent boom in tin all sorts of labor-saving machinery have been imported, and efforts are made to exploit the tin mines and to make the transportation of their product as easy as possible. Much remains to be done in this respect.

URUGUAY.

EXTENT OF FOREIGN TRADE.

John W. O'Hara, consul at Montevideo, forwards the latest figures concerning Uruguay's trade for 1904, compared with other years. The following table tells the story:

Year.	Imports.	Exports.	Year.	Imports.	Exports.
1891	$18,978,420	$26,998,270	1898	$24,784,360	$30,276,916
1892	18,404,296	25,951,819	1899	25,652,788	36,574,164
1893	19,671,610	27,681,373	1900	23,978,206	29,410,862
1894	23,800,370	33,479,511	1901	23,691,932	27,731,126
1895	25,386,106	32,543,644	1902	23,517,347	33,602,512
1896	25,530,185	30,403,084	1903	25,103,966	37,317,909
1897	19,512,216	29,319,753	1904	21,216,689	38,456,167

The falling off in imports in 1904 is due, the consul says, to the disturbed conditions during nine months of the year.

The principal imports were:

Foods	$5,116,380
Soft goods and materials	3,579,490
Raw material and machinery	7,156,082
Drinks, in general	1,367,994

The exports consisted largely of slaughter-house products, $34,848,300; agricultural products, $1,956,666, and live stock, $995,000.

PARAGUAY.

CONSTRUCTION OF PUBLIC WORKS.

Consul Ruffin, Asuncion, Paraguay, reports that the Government has recommended to Congress the building of certain works in connection with the custom-houses of Asuncion, Encarnacion, del Pilar, Humaita, and Ayolas. The work consists of the construction of piers, the building of a central custom-house, etc. A dredger, 10 steam cranes, and 6 steam launches will also be purchased. As Congress will probably make this recommendation a law, manufacturers interested should send their catalogues to the consul at Asuncion. If the recommendation is carried out, $289,500 will be appropriated for the work.

The House of Representatives has passed a bill for the electric lighting of Asuncion, and the bill is now before the Senate. A translation

of the bill may be seen at the Bureau of Manufactures, or those interested may write to the consul at Asuncion or to the municipality of that city for a copy.

TRADE OPPORTUNITIES IN SOUTH AMERICA.

From German sources the following items relating to projected construction in South America are obtained:

Argentina.—The Chamber of Deputies has passed a bill granting $1,100,000 gold for harbor improvements at Buenos Ayres and La Plata.

Bolivia.—Until September 1 the minister of public works at La Paz will receive bids for constructing a railroad from Uyuni to Potosi, Bolivia.

Brazil.—Twenty million dollars in gold is to be expended upon harbor works (quays and docks, storage sheds, and machinery, etc.) in Bahia.

According to the Brazilian Review a project is to be submitted to the minister of public works for the construction of harbor works at Rio Grande do Sul.

The municipality of the city of Bahia projects the construction of sewerage works.

The Madeira and Marmove Railroad, the building of which is projected by the Government, will be 212 English miles long. Offers for operating the road on a long lease will be entertained.

The governor of the State of Rio de Janeiro has granted a concession to the engineer, José de Cruz Camerão, for building a railroad from Rio Dourado to Barre de Rio St. Jaao.

Chile.—The firm of Fould & Co. and the Société de Construction des Batignolles, of Paris, France, have received the contract for constructing sewerage works at Santiago at a cost of $6,750,000, payable in 5 per cent bonds of the Republic. American contractors might procure subcontracts for machinery, supplies, etc., for this work.

Mexico.—D. Telesfore Garcia has received the concession for building a narrow guage railroad from San Juan de las Huertas to Zacualpam.

Five hundred thousand dollars will be expended by the city of Guadalajara for the construction of new waterworks and a filter plant.

The electric light and power company at Toluka intends to apply for a concession to utilize the water power in the Tennescaltepec and Saltpeter mining districts for electric energy.

Nicaragua.—The Nicaraguan Finance and Improvement Company has received a Government concession to utilize the waterfalls of the Tipitapa River for electric energy; also a grant for building a railroad from Managua to Jinotega. This company has also secured a monopoly for manufacturing explosives in the Republic.

Uruguay.—The Government projects building harbor works in Salto. Apply to D. Anibal Semblat, in Montevideo.

The Ferrocarril del Este Company in Montevideo contemplates the building of a railroad from San Carlos to Malduado.

CENTRAL AMERICA.

GUATEMALA.

THE CULTIVATION OF COFFEE.

Consul-General Winslow furnishes the following report on the coffee industry:

Some time shortly after 1860 coffee raising began to take the place in this Republic of the cultivation of the indigo and cochineal plants that had been grown here for many years previous to the discovery of the chemical dyes that are now the colors known to the commercial world. From that time until recently the business gradually grew, until in 1902 the coffee crop of the Republic, which is about the size of the State of Ohio, exceeded 74,000,000 pounds of clean coffee.

Only a small portion of the area of the country is adapted to the cultivation of coffee. At present good government coffee land is very scarce, but when found can be had for about 30 to 40 cents per acre, and when brought under cultivation, with a good stand of trees, is worth from $100 to $500 United States gold or more. The coffee of commerce grows in altitudes of 1,000 to 6,000 feet; the best and most prolific trees at 2,000 to 4,000 feet. The labor is cheap, from 3 to 20 cents a day (gold), hence profitable, planters or capitalists getting as high as 50 to 60 per cent of the market value, usually from 6 to 20 cents per pound, hulled.

The industry as yet has not been brought to a very high state. Only in a few cases has an effort been made to crowd the coffee tree to see what it could be made to do, and that was one of the cases above mentioned, where one tree produced 25 pounds. This tree stood alone in a garden and had special attention and was fertilized. It is thought that if the tree was brought to a high state of cultivation it could be made to double its yield.

Guatemalan coffee is rated very high in the markets of the world, and is the principal industry of the country, it giving employment to more than one-half of the population for about half of the year, during the harvesting time.

EDUCATIONAL METHODS.

Consul-General Winslow, in describing methods of education in Guatemala, says:

The educational methods employed in the Republic of Guatemala are quite primitive, but there are few villages in the country where there are no schools. In the city of Guatemala of late much attention has been given to education, under the direction of President Manuel Estrada Cabrera, who has done more along this line than any of his predecessors. There are in the city of Guatemala 25 public schools, 8 institutes, and 3 colleges.

During the last few months President Estrada Cabrera has given much attention to his pet scheme of establishing an industrial school for boys and girls at his own personal expense, aided by several of the

more progressive citizens of Guatemala city, where the most improved methods of instruction are to be employed. The President has engaged two able educators from the United States, and proposes everything shall be up to date.

The Boy's Industrial College is in charge of Prof. Y. C. Pilgrim, a well-known educator of New Jersey, assisted by Professor Bellingham and wife, who have charge of the languages, and Professor Lorenzo de Clairmont, who instructs in gymnastics and military tactics. These are assisted by several native teachers. The boys are selected from the best families in the Republic and are limited to 50, and are all required to live in the dormitory. The college buildings are situated in a tract of land of about 60 acres, convenient to the city, with a campus where the boys are to be instructed in the modern sports and military tactics as taught at West Point, and all orders are to be given in the English language.

The Girl's Industrial School is in charge of Miss Alice Dufour, a prominent educator of New York City, assisted by several native instructors. This institution is located in the city and is to be conducted on the same high plan as the boys' college. The idea is to teach the principles on which the American home is founded.

President Estrada Cabrera means these institutions shall be the nucleus around which a solid and up-to-date system of education shall be built for this Republic. It is his ambition to firmly establish an educational system modeled after that in use in the United States, where the watchword shall be industry, promptness, and honesty.

NICARAGUA.

THE BANANA TRADE.

Consul Ryder, of San Juan del Norte, Nicaragua, furnishes statistics of the banana trade of the Bluefields district for three successive fiscal years, which show a marked decrease in value of shipments made the past year. These figures indicate, the consul explains, that the number of bunches was not decreased, but that the Bluefields Steamship Company is paying less for bananas than in previous years. There is a report that the Government will permit other vessels than those of the Bluefields Steamship Company to embark in the banana trade and that a concession has been made to a party who is to deliver the fruit at the Bluff, where vessels may load. A charge of 16 cents, gold, per bunch will be made for collecting the fruit from the plantations on the river. The statistics show that the total value of bananas shipped from the Bluefields district the past three years was $2,304,548. The shipments for each of the three years named, ending June 30, are as follows: 1903, $842,220; 1904, $814,900; 1905, $647,428.

Consul Frazier, of Copenhagen, says the value of goods imported for consumption by Denmark in 1904 was $124,942,000—$6,000,000 more than in 1903. The value of domestic exports was $95,462,000, or $1,072,000 over the previous year.

WEST INDIES.

CUBA.

INCREASED TRADE WITH THE UNITED STATES.

The Bureau of Statistics, Department of Commerce and Labor, has furnished preliminary figures of the foreign commerce of Cuba for the calendar year 1904, which show substantial increase in our trade relations with the island Republic. As the reciprocity agreement with the United States went into effect December 27, 1903, the figures give some idea of the relative position of American commerce with Cuba in comparison with that of the principal competing European countries as affected by the preferential tariff treatment accorded American products.

The United States furnished 42.5 per cent of the total merchandise imports during the calendar year 1904, as against 40.5 per cent during the previous year. The United Kingdom, our most serious competitor, furnished 16.4 per cent, as against 17.0 per cent in 1903. Spain's share has fallen from 14.3 to 12.6 per cent, while Germany's and France's relative shares have risen inconsiderably, though the absolute figures of imports from all these countries show substantial gains during the most recent calendar year.

The following table shows the value of the imports into Cuba from the principal countries during the calendar years 1903 and 1904:

	1903.	1904.
United States	$25,703,100	$32,742,000
Great Britain	10,799,800	12,684,700
Spain	9,113,500	9,707,600
Germany	3,922,000	5,023,800
France	3,372,000	4,224,100
American countries, n. e. s	8,337,500	9,686,500
European countries, n. e. s	1,892,000	2,450,100
Other countries	324,600	568,300
Total	63,464,500	77,082,100

EXPORTS TO PRINCIPAL COUNTRIES.

The importance of the United States as the principal outlet for Cuban staples is even more pronounced than its leading position in the Cuban import market. Moreover, the large gains, both relative and absolute, made by Cuban exports to the United States during the last year have reduced the shares in the export trade taken by the leading

European countries. Thus, while the exports to the United States grew from $60,100,000 in 1903 to $74,500,000 in 1904, or from 77.7 per cent to 83.7 per cent of the total exports, the share of the United Kingdom has fallen from $6,600,000 to $5,900,000 in 1904; that of Germany has fallen from $5,400,000 to $4,000,000; that of Spain from $1,300,000 to $731,000, and that of France from $1,100,000 to $1,000,000. The following table shows the value of the exports from Cuba to the principal countries during the last two calendar years:

	1903.	1904.
United States	$60,089,400	$74,466,000
Great Britain	6,590,800	5,902,500
Spain	1,273,200	731,000
Germany	5,370,800	4,032,300
France	1,132,700	1,008,300
American countries n. e. s.	1,654,500	1,698,300
European countries n. e. s.	811,400	703,200
Other countries	338,000	476,200
Total	77,260,800	89,012,800

AMERICAN INDUSTRIES BENEFITED.

An analysis of the import figures by articles discloses the fact that the gain in imports from this country has been distributed in a fairly equable manner, benefiting thus a large number of American interests represented in the Cuban market. Thus, the imports of cotton goods show a gain of over 87 per cent—from $453,100 in 1903 to $848,500 in 1904—although it should be said that even after such an increase the relative share of the United States in the total foreign supply of cottons does not exceed 10.4 per cent, as against 54 per cent supplied by the United Kingdom and 18.7 per cent by Spain. Almost one-half of the manufactures of iron and steel is now being furnished by the United States, the gain in 1904 of about half a million dollars being far in excess of gains made by other countries during the same period.

BOOTS, SHOES, AND MACHINERY.

In boots and shoes the share of the United States has risen from 37 per cent in 1903 to 40.3 per cent in 1904, the value of American shoes imported in 1904 being $1,202,200, as against $854,300 in 1903. Spanish boots and shoes, which as late as 1900 supplied almost 80 per cent of the total demand for the foreign article, constituted 61.3 per cent of the total shoe imports in 1903 and 58.6 per cent in 1904. The change of taste and habits illustrated by these figures is, after all, the product of slow growth, and no sudden changes in the import figures could be expected.

The total import figures of machinery, exclusive of machinery for sugar mills and distilleries, show a larger relative growth than those credited to the United States, notwithstanding the 20 per cent differential in favor of the American article. The progress made by American machinery for use in sugar mills and distilleries is more satisfactory, the import figures for 1904 showing substantial gains over those for 1903, and the relative share in the total imports for 1904 being 73.2 per cent, as against 66.7 per cent during the preceding year.

PAPER, WOOL, AND TEXTILES.

Considerable gains are shown in the imports of paper and paper manufactures. Out of $1,304,200 worth of these articles imported in 1903, the share supplied by the United States was $319,800, while in 1904 the imports from all countries amounted to $1,367,000, of which the United States supplied $428,200, or 31.3 per cent. The imports of manufactures of wool and textile fibers from this country are still inconsiderable, Cuba drawing upon Europe for these articles. The imports of manufactured linen, jute, and other fibers have fallen off considerably during the last year, while the imports of wool manufactures show a slight increase.

GROWTH IN FOOD STUFFS.

The improvement in the economic condition of Cuba is attested by the growth of imports of food stuffs from $21,800,000 in 1903 to about $25,000,000 in 1904. Practically all the flour, corn, and lard had been coming from the United States even prior to reciprocity, and naturally continues to do so now under reciprocity. Of these three articles of popular diet, the imports of flour have increased from $2,085,000 to $2,970,000; corn from $606,600 to $898,000, while lard decreased from $2,885,000 in 1903 to $2,617,800 in 1904.

It is but proper to add that the Cuban duty on American flour, $1 per 220 pounds before reciprocity, was reduced to 70 cents by the reciprocity agreement, and then increased to 91 cents by act of the Cuban Congress of February 5, 1904, raising the general rate on the article. The rate on American corn was likewise reduced from 30 cents per 220 pounds to 21 cents, and then increased to 27.3 cents, while the rate on American lard was lowered at first from $2.80 per 100 kilos to $2.24 by a 20 per cent reduction according to the reciprocity agreement, and then raised to $2.91 through an increase of the general rate by 30 per cent by the act of February 9, 1904.

The 20 per cent differential in favor of American-grown coffee has benefited the Porto Rican product, the imports of which into Cuba have increased from $207,400 to $711,400, constituting 38.4 per cent of the 1904 coffee imports, as against 18.6 per cent only of the imports for the preceding year.

SAMPLES OF COTTON GROWN.

The New York Evening Post, commenting on the arrival at New York on Thursday last of the steamship *Paloma* with 4 bales of cotton of 75 pounds each, the cotton being samples of a second crop raised in Cuba, says:

Two years ago, when the price of cotton soared, attempts were made in various parts of Cuba to start cotton growing on a scale large enough to be competitive. Although not entirely successful, the results have been rather gratifying than otherwise. It has been demonstrated by experience, it is said, that cotton of the finest quality—long staple sea island—that brings from 23 to 25 cents a pound and yields something over 500 pounds an acre, can be grown in any part of the island of Cuba or the Isle of Pines, particularly the latter place.

On the other hand, however, the boll weevil, the cotton plant's deadly foe, is found in practically every district where cotton is grown, and has effectually prevented the crop from assuming any considerable proportions. An article in the Cuba Review and Bulletin for July suggested a remedy for this trouble. Cuba has one distinct advantage over the South, it was pointed out, in that during a part of the year there it is impossible for the weevil to work.

During the rainy season, which comprises the months of July, August, September, and October, the heavy rains and extreme heat keep the weevil from damaging the plants, so that if the crop were planted by the 1st of July instead of in April, as in the Southern States, by the time the boll weevil begins to work, in November, there would be a good crop on the producing plants. It is estimated that by this method of raising cotton the yield should be, of the long or short staple, from 1 to 1½ bales to the acre. Of course, for the succeeding four months—the dry season—the weevil would have full sway, but with one crop already matured the planters would not be so badly off.

Until some method of getting around the weevil has been tried and found successful, though, it will be impossible to get men to invest large sums of money in the business, according to the paper quoted, especially while there are much safer sugar and tobacco enterprises to embark in. Nevertheless, the possibilities in cotton growing, as indeed in everything else in Cuba, are declared to be enormous, as the fluffy bolls can be raised anywhere in an area the size of the State of Pennsylvania.

THE SUGAR CROP.

The following is taken from Willett & Gray's Sugar Trade Journal for August 17:

From the figures of Messrs. Joaquin Guma-Federico Mejer, Habana, we make the following estimates in tons, using 320 pounds per bag, which is the United States customs average outturn of Cuban sugar.

	1905.	1904.	1903.
Exports, January 1 to July 31 (tons 2,240 pounds)	789,213	966,499	661,540
Stock in entire island July 31	290,438	115,198	293,027
	1,079,651	1,081,697	954,567
Local consumption, Cuba, to July 31	25,260	24,360	23,145
	1,104,911	1,106,057	977,712
Stock in island January 1 (old crop)	.....	94,835	42,530
Total production to July 31	1,104,911	1,011,222	935,182

SANTO DOMINGO.

The following decrees, having been previously enacted by the National Congress, are proclaimed by President Morales, of the Republic of Santo Domingo. The decrees are preceded by the declaration that "considering that facilities for transportation are the best means of encouraging agriculture, and considering that the State should encour-

age and promote means to open highways for commerce and transportation," it is decreed:

ARTICLE 1. From January 1, 1906, 30 per cent of the revenue received from exportations, which will be termed internal revenue, will be devoted to the construction of railroads for account of the State, according to contracts which will be made by the Executive and approved by the National Congress.

PARAGRAPH 1. The Executive is authorized to distribute this revenue to pay the premiums or guarantee the interest on the capital invested in the construction of private railroads, by virtue of concessions duly given.

PAR. 2. The interest can be as high as 6 per cent per year, as determined, and a premium to the amount of $2,000 will be allowed for each kilómetro of road constructed.

ART. 2. The proceeds from this source can not be devoted to any other purpose other than that stipulated in this decree.

PARAGRAPH 1. All compromises or obligations contracted bearing on these receipts will be null and void if not given as stipulated in the preceding article.

ART. 3. The Executive power in celebrating contracts and giving concessions to construct railroads will endeavor, under equal conditions to grant them on an equal basis, giving preference to the railroad from Moca to Monte Christi, connecting with the Dominican Central Railroad; from Barahona to Laguna del Fondo; from the Romano or Macorís del Este to the Seybo; and from Azua to Bánica.

BARBADOS.

ORGANIZATION TO GROW COTTON.

Cotton planters and manufacturers of cotton goods of the United States will be interested in the efforts being made in the island of Barbados, British West Indies, for the cultivation of cotton, which are described by the Barbados Agricultural News. A largely attended meeting of cotton growers of the island was held on July 7 for the purpose of considering the advisability of forming a company to take over the Central cotton factory and carry on operations on cooperative lines. It seems this factory has been worked for two years by a committee of the Agricultural Society and with governmental aid. The progress being made with this infant industry is described by the Agricultural News in a report of the proceedings of the meeting herein referred to, a copy of which was furnished by Consul Clare. The News says:

The imperial commissioner of agriculture placed the facts at some length before the meeting. He recapitulated the history of the establishment of the cotton industry in Barbados, and pointed out that the quality of the cotton, the yield, and the returns which were being derived from its cultivation were sufficiently promising to justify the planters in carrying on the industry. In fact, the cotton industry at

Barbados might now be regarded as established on most promising lines. As a consequence they had arrived at a stage when it was desirable for the cotton growers to take into consideration whether they could not adopt action with a view of taking over the central cotton factory and working it in the interest of the cotton growers of the island.

The factory so far had been worked by a committee appointed by the Agricultural Society, in cooperation with the imperial department of agriculture. It was first opened in July, 1903, when only one gin was available. Six months later the number had increased to six. A baling press was next added, and soon after a Christy & Norris disintegrator, for reducing the cotton seed to meal. At the present time the factory was as fully equipped as any sea island cotton factory in any part of the world.

The cotton committee had worked the factory for nearly three years with the imperial department of agriculture, and it had been shown that the factory was capable of doing excellent work and that cotton could be ginned and baled at a cost not exceeding 2 cents (1d.) per pound. It was felt that it would be for the good not only of the industry generally but also of the cotton growers if the factory were taken over and run on cooperative lines. The growers would thus obtain not only the profits arising from the cultivation of the cotton but also the profits of the working of the factory.

The total cost of erecting the factory and bringing it into its present efficient condition was £1,159 12s. 6d.; of this amount the government of Barbados had contributed £649 9s. 6d. and the British Cotton Growing Association, in gins, baling press, and disintegrator, £246 6s. 10d. and a free grant of £100. A further sum of £166 16s. 2d. had been provided from the income of the factory.

LEGISLATION WILL BE RECOMMENDED.

Sir Daniel Morris mentioned that the governor in executive com mittee would be prepared, in the event of a company of cotton growers being formed, to recommend to the legislature that the interest of the government in the factory might be transferred to the company for first-mortgage debenture bonds of the value of £600, bearing interest at the rate of 3 per cent per annum, and also that a lease might be granted of the present site to the company at a nominal rent, provided the land was not required for public purposes. Under similar circumstances the British Cotton Growing Association was willing to accept £150 for its interest in the machinery. They therefore required about £600 to meet the payment of £150 and to carry on operations during the coming season.

The agreement of sale would include an undertaking that the factory would not charge more than 2 cents (1 d.) per pound for ginning and baling cotton for cotton growers in the Barbados; also that the factory would buy cotton from small growers or make advances to them to the extent of 75 per cent of the value of their cotton. Further, in the event of a new law being passed to prevent cotton stealing, the company would become the principal buyers of cotton, in order to prevent its purchase by unauthorized persons.

A resolution was adopted to form a limited liability company to take over the factory and work it on cooperative lines upon the terms set

forth in letters received from the colonial secretary and the secretary of the British Cotton Growers' Association.

THE PLANTING INDUSTRIES.

Consul Clare, of Barbados, reports that Sir Gilbert T. Carter, governor of the island, in his speech delivered on the opening of the legislature on Tuesday, July 4, made the following reference to the planting industries of this island:

In view of the conditions of the sugar industry in this island and, so far as can be foreseen, its discouraging future, I can not help thinking that it would be wise to consider seriously the question of raising other products of a more profitable nature. I am aware that no lack of energy and enterprise has been shown by the indefatigable head of the Imperial department of agriculture and his capable staff in advancing this policy and putting it into practice, and it has been demonstrated that cotton of the best quality can be successfully grown not only in Barbados, but in the adjacent islands. Excellent bananas have also been cultivated, which it has been found profitable to ship, and I have no doubt there are other products still waiting which would give more lucrative results than can be obtained from sugar. In this connection I may mention the species of Agave which produces the fiber known as "sisal." This, after many vicissitudes owing to want of expert knowledge, is now successfully and profitably cultivated in the Bahamas. There is a large demand for this fiber in the United States, and it is admitted free of duty. I understand that a supposed experiment was made with this plant here, but owing to a mistake having been made in the species cultivated it was a failure. The true species *Agave sisalana* is easy of culture, is not attacked by insect pests, and is unaffected by the climatic excesses either of drought or rain. The fiber can be separated by hand if desired, and machinery for extracting it is not of a very expensive character.

THE PRESIDENT of a large manufacturing company in New York, in a letter to the Bureau of Manufactures commending the Government for sending special agents abroad to inquire into trade conditions, gives some personal experience which will interest those engaged in the cotton trade. The writer says:

Some years ago the writer made goods for the China trade, but the business resulted in a loss, because I did not know that China desires goods put up in pieces of about 40 yards in length. Their system of measurement is different from ours, and their custom of sale and purchase is also dissimilar; and then, again, they prefer goods loaded downwith China clay and zinc, and other foreign matter in preference to straight cotton goods. These, with other matters, are not generally understood by the manufacturers of the United States, and yet Europe has for years taken advantage of our lack of knowledge of their wants.

CONSUL CALDWELL, of San Jose, Costa Rica, reports that the decree of that Republic establishing quarantine regulations for vessels arriving from Panama has been rescinded.

EUROPE.

GERMAN EMPIRE.

YOUNG MEN IN TRAINING FOR AFRICAN SERVICE.

Consul Ernest L. Harris furnishes the following interesting facts regarding the training of young men for commercial work in the German colonies:

During the past two years the casual observer may have reached the opinion that Germany has been making but little or no progress in the development of her colonies in different parts of the world. The continued expenditures which most of these possessions demand, thus far unrewarded by any noteworthy commercial or financial benefit, taken together with the native uprisings in southwest Africa, which alone have cost the taxpayer nearly $50,000,000, would give the erroneous impression, perhaps, that the years of patient toil and the enormous sums expended had been void of producing any perceptible results. On the whole, however, the Empire has gained by being obliged to pass through the severe school of experience. Of all European countries, Germany came upon the scene of colonial action after the best portions of the earth fit for colonizing purposes had been partitioned out among her commercial rivals. Taking into consideration the material at their disposal, much credit must be given to German statesmen, bankers, and colonists for the work already accomplished.

PUBLIC INTEREST AWAKENED.

Public interest is being awakened more and more in Germany to the real needs of the colonies, and much is being done to create a sentiment of patriotism among the people, founded upon the dissemination of reliable information to the different classes of the inhabitants all over the Empire. The professors of the universities, whose particular branch of learning may have some cognate relation to colonial subjects, are beginning to introduce new lecture courses into their regular programmes, which are intended to embody, as far as practicable, concise statements concerning the actual conditions prevailing in the various colonial possessions of the Empire. The feasibility of this plan is self-evident. No one will be better able to assist in keeping the public mind trained up to a high degree of intelligence for judging colonial enterprises and policies than the men who go out from the great seats of learning to occupy places of honor and trust in every path of life.

The plan of utilizing the universities as a means of indirectly furthering the interests of colonial development is not a new one. The time-honored university of Leyden, in Holland, has for many years been giving extensive and systematic lecture courses upon colonial topics. In Ghent and Liege lectures are given upon colonial politics, special attention being paid to the affairs of the Kongo State, while the commercial school at Antwerp gives a thorough course of training to young men who are looking forward to a life spent in active colo-

nial service. In France much is being done, privately and officially, to keep public interest in the colonies unabated. In Marseille the chamber of commerce has founded an independent colonial institute, and the municipal authorities in Bordeaux and Lyon have sanctioned the introduction of certain colonial topics into the courses of the advanced schools of those cities.

YOUNG MEN FOR AFRICA.

For some time there has been a movement on foot in Germany to train up a corps of efficient officials for the colonial service. It is the intention of the colonial administration to put into practice an experimental plan which promises in time to secure important results. Ten young men are to be carefully chosen and trained for service in German East Africa. One of the primary conditions of choice is an elementary knowledge of the English language. The candidates must be graduates of a gymnasium, realschule, or some other institution of equal standing. They must be unmarried, exempt from military duty, and not be more than 26 years of age. When a candidate has been chosen he must agree to remain in the colonial service for ten years after the completion of his training. This training, which is undertaken at Government expense, consists in the beginning of learning the routine work of the home colonial office. None of these pupils will be sent out to Southeast Africa until they have completed their twenty-first year. They will then be placed in the custom-house at Dares-Salam, in order to get acquainted with the country and its native inhabitants. At the end of two years' time each pupil is subjected to a physical examination which definitely decides whether he shall remain in the colony or return home. The salaries will be fixed at $1,000 and $1,200, depending upon length of service.

It is the determined purpose of the German Government and people to succeed in the work of colonization, and to attain this end all the effective machinery of science and education will be engaged in the attempt. Such colonies as are suitable will be settled by German peasants, and this sober, industrious race will in time accomplish on the arable land of Southwest Africa what their kindred have done in the Ohio and Mississippi valleys, in southern Brazil, in the Seven Mountains of Hungary, at Jaffa in Palestine, and in different parts of Russia. For colonization purposes the German peasants are the salt of the earth, and it is natural that Germany should endeavor by every means in her power to retain such valuable assets for her own colonies. In order to become better acquainted with the needs of the colonies, certain members of the Reichstag are planning to visit Southeast Africa, Togo, and Kamerun. It is also claimed that an independent colonial ministry will soon be established.

EXPERT OPINION ON AFRICAN COLONIES.

Major von Wissman, formerly Germany's leading representative in Africa, was told by Stocker, a member of the Reichstag, that there were missionaries who had been in Africa twenty-five years, hence were better able to judge of the needs of the Dark Continent than was von Wissman with his twelve years. The commissioner's answer was apt: "It is not the number of years," he said, "but the work

that one has done, what one has seen and thought before forming judgments that fits one to form judgments. A man might be in Africa or anywhere else a hundred years and be then unfit to express an opinion that would be worth anything. Africa is a land of long distances. It is a land in which the north is not only widely separated from the south by distance, but by the conditions of the country. Before anyone should say, 'It is so or so in Africa,' he should have seen, heard, and felt for himself. Nothing should be based on mere belief or hearing. The wise man who knows Africa will say, 'Where I was it was thus and so.' Such a man is safe." Continuing Mr. von Wissman says:

We Germans have no choice in the matter of colonies. Before we got ready to go in for them the best part of the world had been seized. What the great colonizing countries did not want fell to the lot of the Empire. Hence we have no right to expect or even to hope to see the wretched remainders, left after other lands had picked out the best parts, progress as rapidly as the more richly endowed sections. Besides, colonizing is a different thing to-day from what it was when the world's great Western powers seized the rich lands of the East. Formerly a conquered people were plundered, the capital seized being often used to lay the foundations not only of power, but to lay the foundations of the efforts and enterprise that were to lead to rich results later. To-day no nation would dare to do what the leading nations of Europe did one hundred years ago—the morals of an era marked by the golden rule in international relations would not stand for it. Anyway, the wealth is not in the colonies. If it ever was there in the form of natural wealth—ivory, gold, and precious stones, piled up by natives ignorant of its value to Europeans—it is there no longer. The traders of England, Spain, Portugal, and Holland have obtained it, possibly stolen it.

GERMANY'S SUCCESS UNCERTAIN.

Another reason why Germany's success in the colonies is uncertain, is due to the fact that several parts of the world, all America and Australia, offer great natural inducements to secure German immigrants. Still another reason is the opposition of our own people to the whole scheme of colonization. They never tire of denouncing it. To invest money in a colonial enterprise is the last thing they would think of doing. Had we been wise we would be earning money to-day on every dollar invested in the colonies. I am convinced that more mistakes, relatively, were made in investing money in the Empire than in the colonies. A weak point in our colonial work was due to the unwise way of selecting officials. Only experts, or at least persons familiar with colonial work and the wants of the colonies, should have anything to say about them. The worst enemies of the colonies, however, were not the people who openly opposed them. A great deal of harm came from the people who went in with a rush, hoping to get quick returns. That is never wise; it is often very foolish. They had not given the matter proper consideration. They thought the colonies were as rich and resourceful as those of England and other countries.

When I saw this I said to myself that the best way to avoid further loss and error would be by telling the truth. At that time I said, "There is not a square foot of healthy soil in German East Africa."

To-day it is different. There are places in those parts just as healthy as it is possible for any parts of a new country to be made. Bombay was once a pest hole. To-day, except for occasional epidemics due to crowded tenements and dirt, it is supposed to be a very healthy place for Europeans. Dar-es-salaam, in German East Africa, is healthy. It has good houses and good food. In the colonies all is changed or is changing for the better. The slave trade has been suppressed; the natives are advancing; their needs now are far greater than formerly. This ministers not only to trade but to the development of the people themselves. Work is no longer a matter of man and master. It is a thing the East African is learning to love and to do well.

A MEASURE FOR THE COLONIES.

One must measure the colonies by colonial measure. The progress in Germany's African colonies can not be compared with the growth of the Empire. It would be wild and wicked to expect any such progress in the colonies as has been recorded at home, particularly in colonies poor as are those of east Africa. By and by things are bound to be better. When all is in order the Empire will be able to buy its colonial articles, some of its cotton, much of its corn, spices, tropical fruits, etc., from its colonies; and as the nations seem bent upon building walls as barriers of trade, it is important that the colonies be encouraged to progress. This indeed is the only way out of the increasing embarrassments caused by the protective systems toward which England is rapidly moving. Only ignorance and political partisanship can keep the colonies down. It is for us to say how far and how fast they shall move forward. What the Empire has undertaken should be carried out. It has responsibilities to millions of men and women in the heart of Africa—men and women who have been dealt with badly in the past.

A curious concatenation of events has produced conditions in the colonies that make it the Empire's duty to lead the East Africans up to civilization. If it does that, profit and honor will be the Empire's reward, and these are well worth working for.

SUPERIORITY OF AMERICAN AGRICULTURAL MACHINES.

Consul Heaton W. Harris, of Mannheim, says machines of American make are admittedly ahead of all others. The consul writes:

Relatively speaking, the introduction of improved machinery in agriculture and in many branches of manufacturing in Germany has been much slower than in the United States. This has been due in part to low wages, denser population, the larger number of small farms and factories, and to other causes. Within the past few years the improvement has been notably rapid, not only in the importance accorded to improved machinery, but in the domestic manufacture and exploitation of such machinery upon the market. Even among the peasant farmer class there has been a widespread demand for better machinery, and it has secured a substantial foothold where but a few years ago hand processes were all but universal.

The agricultural fairs held from time to time in Germany, and especially the large national fair held annually in some one of the principal

German cities, offer special opportunity to note the favor in which this class of machinery is held and its rapid improvement in extent and quality. The national fair brings together a large quantity of all kinds of machinery and appliances pertaining to agriculture and stock raising. The exhibits include harvesting machinery of all kinds, steam thrashers, grain drills, hay tedders, potato-digging machines, gasoline and other engines to supply power for various purposes, cream separators and other dairy appliances, etc. The number of exhibiting firms in the various classes and the extent and arrangement of the exhibits themselves are noteworthy, as are the crowds of people who attend these fairs.

In the comparatively new department of cream separators, butter-working machinery, cooling apparatus, and other dairy appliances, the exhibits for some years past, and notably so this year at Munich, have been especially fine, perhaps withal the best exhibits made. For causes not easy to understand the plows and farm wagons exhibited were, on the other hand, wholly out of date as viewed from the American standpoint, and are the only exhibits of which this can fairly be said. Incidental features of the machinery as a whole is its lighter and simpler construction than formerly, its better arrangement and more attractive appearance.

AMERICAN EXHIBITS.

Practically all the principal American harvesting machinery companies have exhibited at these fairs, and in this class easily stand at the head. Native mowers and reapers are exhibited, but are more or less perfect copies of the American machines, the parts of which in some cases have clearly been used in the making of patterns for the castings used in the native machines. American machine agents report a good demand for improved farming machinery in all parts of the Empire and of rapid improvement in the extent and variety of domestic made machinery. They believe that under favorable trade relations they can hold a fair trade here because of the relatively lower price at which American factories can build many kinds of machinery under the stimulus of an enormously greater home demand than can ever exist in Germany. They see, however, that each succeeding year domestic competition is sure to increase and that the price at which they can afford to sell American machinery here will become a more important factor in determining the amount of business they can do.

OTHER LINES OF MACHINERY.

In general manufacturing, in the milling business, in hoisting machinery at river and other harbors, in plants to furnish power, and in all branches requiring machinery, the German buyer is in the field for improved machines, and the German machine builder, recognizing the demand, is fitting himself to meet it. Not only the trade journals, but daily newspapers from the machine-building districts, are constantly in use as media for advertising improved machinery. That machine buyers in Germany are, as a rule, predisposed to use German machinery when it is possible to do so is undoubtedly true, but this is by no means universally so. The excellence of much American machinery is conceded, and large amounts of it are in use in this locality in some

of the newer plants. Just what amount of such machinery has been installed I am unable to state. In this connection it is suggested that American machine men who would introduce machinery here should be able to demonstrate, if need be, what their machines are capable of doing under given conditions. Much stress is placed upon this feature of machinery offered here, and doubtless, in many cases, determines what makes of machines are bought.

An American foreman in a large factory in this district recently gave an illustration from the factory in which he is employed. It is equipped partly with American machinery, built to handle 1,500 pieces of a certain product in a day of ten hours. The machines do this regularly in American factories. He found the same machines doing here from 700 to 800 pieces in a day, which was believed throughout the factory to be all the machines could do; in other words, that the capacity had been stated at about double what in fact the machines were capable of doing. The foreman took one of the machines for a day or two, and by actual demonstration showed that the machine would do the work which it was built to do, the result being that throughout the factory the machines are now doing the full 1,500 pieces per day.

SIMPLICITY IN CONSTRUCTION.

A hint as to the value of simplicity of construction in machinery for the market was dropped by this same foreman, who stated that for the purpose of keeping the machinery in good running order in the factory in question seven machinists and a foreman are employed, while for the same amount of this machinery in an American factory one machinist is regarded ample. The difference was stated to lie in the fact that in the United States the operator of the machine generally understands his machine, and himself makes slight changes and repairs which here require a machinist.

In miscellaneous lines, automobile express and delivery wagons, automobile street sprinklers and fire department wagons, improved road-making machinery, steam shovels, etc., there is to be noted a distinctively modern tendency. The same may be said of the recent introduction in three factories in this city, and contract with a fourth, for the well-known Grinnell sprinkler system for the extinguishing of fires in factories, department stores, etc.

To summarize, it may be stated that while the demand for better machinery in agriculture and manufacturing came more slowly in Germany than in the United States, the past few years have seen a marked change here in this regard. Coincident with the new and widespread demand for better machinery there has been a growth in domestic machine manufacture, the effects of which not only in Germany but in the other markets of the world are sure to be of much significance.

OPPORTUNITIES TO SELL AMERICAN GOODS.

Consul Creevey writes from Glauchau that there are many opportunities to sell American goods in Germany if the right kind of efforts are made. He says:

Agricultural implements, hand tools, typewriters, and cash registers are used and found on sale through this district. They are system-

atically handled, and dealers report a satisfactory business and fair profit. There should be a good market here for American hardware, but there is seemingly no effort made to bring the superiority of the articles to the attention of the buyer. Carpenters' tools, particularly, admit of much improvement, those in use being crude and unsatisfactory, but as such tools do not come into the district by direct importation there is little or no effort made by the jobbers in the larger cities of Germany to force their sale.

My attention was recently called to a chain hoist of German construction of extraordinary strength and durability, but which lacked the essential qualification of being able to lower the hook instantly. This hoist was of several tons capacity and had but the one speed, the time consumed in raising or lowering a heavy or a light load being equal. I believe there is a market here for a chain hoist, constructed as I have seen them in the United States with two speeds, one for heavy and one for light loads, and the time-saving arrangement whereby an unloaded hook may be instantly raised or lowered to the point where most needed. The actual time required to lower a 3-foot length of 24-inch sewer pipe 8 feet was twelve minutes. This with an equal time for reraising limits the capacity of the hoist to one length in each half hour.

California dried fruits have a good sale, being superior to any produced on the Continent, but American canned goods are not sold in anything like the quantities they should be, on account of the exorbitant prices at which they are offered; nor will there be an increase in the sale of this class of goods until the American exporter or manufacturer establishes a central distributing depot systematically covering the small cities and towns, at the same time insisting that the goods be sold at a reasonable profit. Sweet corn, baked beans, pork and beans, and tomatoes, such as retail in the United States at from 10 to 18 cents per can, are sold in the city of Glauchau at from 2 marks (47.6 cents) to 2.50 marks (59.5 cents).

There seems to be an opening for American soda and milk crackers, a monopoly now enjoyed by our English competitors. Ordinary soda crackers, such as retail in the eastern States for 8 cents per pound, sell here for 37½ cents per pound, and milk and fancy crackers at the same ratio.

DEFICIENT POSTAGE.

Too much can not be written against the practice of sending catalogues, circulars, etc., printed in English, prices in dollars and cents, to American consulates for distribution. Thousands of dollars are thus wasted yearly, for they invariably find their way to the waste-basket.

The matter of sufficient postage is one that all Americans corresponding and doing business with this Empire should very carefully look after. It is particularly annoying to have to pay penalty postage on business letters, letters asking favors, or advertising matter. That this is often the result of carelessness or stupidity of a mailing clerk is illustrated by two letters received at this consulate from a responsible American firm on June 27. One reads: "We wrote you fully this morning, but regret that the letter should have been mailed by one of our clerks without proper postage." The letter referred to was sent under a 2-cent stamp and cost 25 pfennigs (6 cents) penalty postage. The letter apologizing for the carelessness

had no stamp and cost 65 pfennigs (16 cents). All letters for foreign countries should be carefully weighed and particular attention paid to the postage.

Almost every mail brings inquiries from the United States asking the names of exporters or those likely to want new connections, many of them giving the best of references. Such letters are usually translated and sent to those likely to be interested, but I can not learn that anything satisfactory has resulted therefrom, and I would therefore advise those anxious to take up a line of goods for which this district is noted to make a personal visit, look over the goods that interest them, and make their arrangements. Most of the dress-goods makers are bound by long contracts that prevent their selling to other than their representatives in the United States, but they unhesitatingly say they will sell to any responsible person making their selections at the factory, regardless of whither the goods are to be shipped.

GERMAN-UNITED STATES COMMERCIAL TREATY.

The Middle-European Economic Association in Germany, writes Consul-General Guenther, has completed a memorial with reference to a new commercial treaty with the United States and has transmitted the same to the chancellor of the Empire and the other departments of the Federal Government concerned. The material for the wishes of the several branches of industry was obtained in answer to circulars, and is mainly furnished by the woolen, silk, velvet, hosiery, and passamentary, leather and leather goods, the chemical, cellulose, fancy and press card-board goods, the electrotechnical, and grocery industries. The memorial states the wishes of the above and other German industrial branches, calls attention to the necessity for reform of the present commercial treaty, demands that if the United States will not make greater concessions than hitherto Germany, after the precedent established with France, Italy, and Portugal, shall grant only a part of the conventional tariff to the United States. According to the expressions which came to the association this view may well be taken as that of a large majority of the interested circles in Germany

MEMORIAL OF BERLIN MERCHANTS.

Consul Guenther further reports that the seniors of the Merchants' Association of Berlin have expressed their opinion with reference to commercial treaties with Spain and the United States in a memorial to the chancellor of the German Empire, which in several respects differs from the position taken recently on the part of other commercial representatives. The seniors take the stand that in the commercial relations with both countries a tariff treaty of long duration and the recognition of the most-favored-nation clause should be aimed at. While for the coming negotiations with the United States some of the commercial Government representatives advise that the aim should be to have the United States customs duties reduced to those of Germany, the seniors are of the opinion that by such a policy the hopes which commerce and trade place in the next American commercial treaty will be thwarted. The position of the seniors is thus stated:

"This applies particularly to the desire that in the future commercial treaty the American import duties shall in principle not be higher than the import duties for similar articles at the German frontier.

Aside from the fact that such a concession is unattainable, by so doing a completely untenable principle would be established, for if protection of an industry through customs duties is at all considered proper, then the amount of this protective duty can not be made dependent upon, whether the same industry in another country requires the same measure of protection. Aye, even between two protection countries it will be the rule that for the same industry a different measure of protection will be felt, and upon this very difference rests the possibility of an agreement on tariff duties reduction, much more than upon the maintenance of a reciprocal principle which ignores the actual conditions.

"Our aim must be to reach an amicable agreement between the two great countries, which are above everything dependent upon an exchange of goods with each other, and which should be attained upon a basis of actual conditions."

EXPORTS TO THE UNITED STATES.

Consul-General Mason furnishes the following statement of the declared values of exports to the United States by consular districts from Germany during the fiscal years ended June 30, 1904 and 1905, respectively:

Consular district.	1904.	1905.
Aachen	$1,596,658.77	$1,322,160.41
Annaberg	547,085.78	429,898.03
Bamberg	1,166,386.42	1,221,151.54
Barmen	5,867,140.17	4,224,462.49
Berlin	9,342,378.31	10,182,519.58
Bremen	2,545,692.42	1,758,366.02
Breslau	1,436,617.25	1,489,665.77
Brunswick	2,230,359.84	2,599,951.12
Chemnitz	6,904,585.01	6,538,772.84
Coburg	4,055,288.54	4,029,337.57
Cologne	2,804,950.42	3,348,979.26
Crefeld	2,525,571.66	2,421,776.46
Dresden	1,816,222.84	1,713,205.62
Düsseldorf	1,261,786.68	1,192,429.19
Eibenstock	2,227,257.17	2,357,989.34
Frankfort	7,591,545.29	8,294,515.66
Freiburg	975,738.35	912,784.15
Glauchau	622,819.28	813,157.10
Hamburg	10,133,067.65	15,549,798.64
Hanover	1,533,290.66	1,646,935.10
Kehl	1,428,267.24	1,366,923.64
Leipsic	7,390,708.26	9,750,258.35
Magdeburg	5,925,323.32	7,552,883.06
Mainz	2,344,021.90	2,379,145.39
Mannheim	4,523,627.55	5,123,901.23
Munich	956,124.68	908,701.89
Nuremberg	4,555,577.24	4,919,002.19
Plauen	4,599,642.76	5,199,534.59
Solingen	1,858,321.93	1,835,260.99
Stettin	1,025,552.32	2,101,269.19
Stuttgart	1,451,150.93	1,815,792.71
Weimar	1,554,888.89	1,826,310.50
Zittau	1,425,324.11	1,267,927.02
Total	106,222,968.59	118,094,761.64

Following is a summary of exports from Germany to the United States for the past six years:

Fiscal year.	Value.	Fiscal year.	Value.
1900	$98,812,159.72	1903	$120,794,922.96
1901	99,887,013.68	1904	106,222,968.59
1902	101,714,064.34	1905	118,094,761.64

GERMAN COKE IN ENGLAND.

The Iron Age of May 11 contains a letter from its English correspondent, which, under the headline "British purchase of German coke," states that—

Messrs. Cammell, Laird & Co. have entered into a large contract for German coke for their Cumberland works, the first cargo of which is timed to arrive at Workington the first week in May. Mechanically and chemically, this coke is said to be equal if not superior to the best Durham brands, and can be delivered at cheaper rates than are being asked for English coke to-day.

In directing attention to the foregoing, Consul-General Mason, of Berlin, says:

It is now about ten years since the British iron masters, with a large and influential following in the United States, were firmly convinced that German coke (made in retort ovens that save the volatile secondary products which the primitive "beehive" oven wastes) could never equal beehive coke in quality or take its place in iron and steel manufacture. True, German iron mills were then making structural steel, rails, and other railroad supplies, which were being sold at London and Liverpool in competition with homemade English products. They were enabled to do this because many leading German iron and steel works have their own coal mines and coking plants, and, having saved in their coke making the gas, tar, ammonia, and benzole, which constitute about 40 per cent of the value of the raw coal, they were enabled to sell their steel at very close rates while deriving their profits—such as they were—mainly from the sale of their by-products.

But the idea had got fixed in the English mind that retort-oven coke would never do for blast furnace use; that it lacked resonance, "columnar structure," and other essential qualities. The same belief was and is still to some extent entertained in the United States, although there are enough retort ovens of the Otto-Hoffman and Semet-Solvay types in use in our country to show by contrast that the archaic beehive coking system, which pours out in the Connellsville and other districts vast clouds of smoke and valuable gas to blacken and defile the air and landscape, is as primitive and wasteful as it is obsolete and unscientific.

INVESTMENTS IN WELSH MINES.

Consul Liefeld calls attention to the fact that Germany has purchased 6,000 acres of coal lands in South Wales. This is particularly interesting and significant in view of the fact, as pointed out by Mr. Balfour, in the House of Commons, that "so unexampled a proceeding would unquestionably require exceptional treatment." This Welsh coal was described by the prime minister as the "source of our naval mobility," and that means much toward England's naval superiority. Six thousand acres of the best coal fields in South Wales have been bought by a syndicate of Berlin coal dealers. Just what their object is does not appear. Of course it is easily conjectured.

Before buying, with characteristic thoroughness, the Germans sent

a scientific expert, Professor Kursch, director of the Royal Prussian Geological Institution of Berlin, to study the field. After many months' careful study of the territory Professor Kursch advised the purchase for $1,250,000.

Interested parties say no political significance is to be attached to the deal. The mines were bought for the express purpose of putting their purchasers in a position partly, if not entirely, independent of Germany's coal combines. Attention is called to the fact that Bavaria is seeking to buy mines in Germany, so as to emancipate her railroads from the coal trust's exorbitant prices. Whatever the facts, and whatever the action of the British Government, the significant thing is the vast importance that attaches there, in Europe, as well as here, to questions connected with the coal mines.

Both Berlin and London are agitated over the reported purchase, the former insisting upon it as an accomplished fact, the latter strenuously denying it. All the evidence obtainable seems to support the German contention that the mines have been bought. If so, and if a purely private transaction, it is hard to see how it is to be helped.

REMOVAL OF LARGE INDUSTRIES.

Consul Albert, of Brunswick, says that a dispatch from Berlin to the Brunswick Landeszeitung, under date of July 25, makes the following important announcement:

From inquiries instituted by the Saxon Industrial Union in consequence of the recent commercial treaties made by Germany, it has been ascertained that the removal of German industries to other countries, especially from Saxony, has assumed large proportions. Thus among other manufactories, a fancy paper factory, which has to contend against an outside tariff increase of 100 per cent, proposes to transfer its seat of manufacture to France or Switzerland.

A chromo and colored paper factory is negotiating for the purchase of a site in Austria, to which country it is no longer possible for it to export. A factory for stamped paper goods for like reason has already purchased an establishment there. The owners of a stamping and pasteboard factory which sells in Austria-Hungary advertised goods to the amount of 800,000 marks ($190,400) think of following suit. The Swiss representative of a polygraphic art industry recommends the removal of the manufacture of their goods to Switzerland, according to the example of other firms.

Still another firm in the paper branch is prepared to break up, and has abandoned a newly planned building. In the reports of this firm attention is especially called to the numerous workmen who have become unemployed, or who have crossed the boundary, on account of the removal of factories. Moreover, different firms have removed to America, or have established branch factories in order to manufacture there, because the American trade policy threatens to completely take away that market.

The industrial changes referred to have been brought about by the new German tariff law and the treaties hitherto made with foreign countries in pursuance with its provisions.

THE TOY TRADE.

The value of toys exported from Germany last year was about $13,500,000, of which the United States, as the principal customer, took nearly $4,000,000. Sonneberg is the chief center of this industry. The chamber of commerce of that city, in its last annual report, has this to say of the toy industry:

Great Britain has been the principal recipient of the goods exported from that (Sonneberg) district, but to all appearances it will ere long have to surrender first place to the United States. The powerful trans-Atlantic commonwealth, favored by a rich and increasing population, has been enabled to retain its importing capacity in spite of the protective character of its customs tariff. The message of the President was all the more disappointing to us, as the hoped-for reform of the tariff and the expected reciprocity treaty was not mentioned therein. This is a consummation devoutly to be wished, and must be worked for by Germany—of course with prudence, so as not to imperil our trade relations with the United States. The constant care and cultivation of these is a life matter for important branches of German industries, and will continue to remain so as long as our products find difficulty in entering the markets of Europe.

Next to the toy industry in Sonneberg is the manufacture of china ware, consisting chiefly of dinner and tea sets, statuary, painted plates and medallions, articles used for electrical apparatus, stoppers for bottles, marbles for children, and doll heads. The exports of this class of merchandise last year aggregated 32,406 metric tons, valued at nearly $13,000,000, of which 56 per cent came to the United States. The manufacture of glassware, especially tubes and bottles for chemical and medical uses, glass balls, glass ornaments for Christmas-tree decorations, etc., is important, as is also the manufacture of pearls from fish scales. For all these goods the United States is a large customer. Slates and slate pencils, masks, and artificial eyes are likewise considerable items in the manufacture and export trade of Sonneberg.

TO PROMOTE EXPORT TRADE.

The Bavarian Association of Manufacturers has organized a new export bureau for the Kingdom of Bavaria. An advisory board, to be composed of the president of the chambers of commerce and of the foreign consuls located in Bavaria, is to be added to the bureau. But two chambers of commerce have already declined to join with this organization for promoting the export trade. They believe that most of the manufacturers can not safely do an exporting business by selling direct to the foreign purchasers. The present mode of selling through staunch old commission houses is preferable. Many of the smaller manufacturers also lack the knowledge of the wants and usages of the foreign trade. The chambers also object to the foreign consuls as members of the advisory board on the ground that it can not be expected the consuls would guard the interests of the Bavarian export industries, but on the contrary that they would be apt to make use of the opportunity for the benefit of their own countries.

FORMATION OF TRUSTS.

Consul Winter, of Annaberg, writes that the record of corporate organization in Germany was as follows for the several years named:

Year.	Companies.	Capital.	Average.
1898	329	$110,341,560	$333,200
1899	364	129,564,820	354,620
1900	261	81,029,480	309,400
1901	158	37,563,500	242,760
1902	87	28,210,140	323,680
1903	84	71,409,520	749,660
1904	104	33,474,700	321,900

In 1903 the great iron and steel firm of Friedrich Krupp, at Essen, was converted into a stock company, with a capital of $38,080,000, or more than half of the entire new stock capital of that year. This accounts for the seeming paradox in the figures for 1903 and 1904. The most important and striking tendency manifested by incorporated interests in Germany during the past five years has been that of combination into variously named organizations to control competition, limit and allot production, and to maintain home prices while strengthening the more important interests for aggressive competition in foreign markets.

But the climax seems to have been reached in this line of commercial and industrial development in Germany. Signs of a reaction are visible.

MERCHANT-MARINE TONNAGE.

The rise of Germany's merchant marine is demonstrated by late official statistics, showing tonnage of vessels engaged in the trade of the following countries:

Trade.	Year.	British.	German.
		Tonnage.	*Tonnage.*
Ceylon	1902	6,947,800	1,295,382
Penang	1902	3,343,812	948,056
Singapore	1903	6,686,380	1,856,805
Hongkong	1902	9,571,787	2,704,228
Japan	1903	9,511,550	2,553,852

The tonnage of Japanese vessels aggregated 10,423,682.

BUTCHERS AND THE MEAT FAMINE.

The newspapers of Frankfort, Germany, report that on July 19 a meeting of butchers and butchers' journeymen was held at Berlin to consider the meat famine, at which a resolution was adopted asking for the abolition of the prohibition of importation of animals for slaughtering purposes, in order to do away with the great famine, on account of which thousands of butchers, journeymen, and master butchers have lost the means of earning a living.

On the same date six numerously attended popular meetings took place at Cologne, at which the present high prices of meat and the means for bringing about normal conditions were discussed. It was resolved to request the common council to take the initiative through the first mayor in order to abolish the prohibition of importation of animals for slaughtering purposes. In addition, the common council

is requested to organize the meat supply of the city in the same manner as has recently been done with good results by the city administration of Vienna.

DANGEROUS MEAT PRESERVATIVE.

The president of the Berlin police has issued the following warning, which has been published in various German newspapers:

A preserving substance under the name of "sterilisol" has been put upon the market, with the statement that no objection can be found to its application and that it is in no way injurious to health. Contrary to this it has been shown by investigations made by the chemical laboratory of the imperial health office that samples of this preparation contain 2½ per cent of formaldehyde. According to the opinion of the royal scientific deputation for medical affairs formalin, as well as all preparations which contain it, are to be considered as preservatives seriously injurious to health in all articles of nourishment and enjoyment. In the preparation of meat for sale the application of formaldehyde has been expressly forbidden by statutory regulations.

APPEAL FOR AMERICAN LUMBER.

A dispatch from Berlin states that importers of American lumber, who for thirteen years have paid higher duties than those laid on corresponding imports from other countries, have asked the United States Government to intervene in their behalf, and the American Association of Commerce and Trade is sending an explanation of the grounds of protest, with documents supporting it, to Secretary of State Root. One paragraph of the explanation reads:

"The discrimination referred to dates back to 1893, when the associated German state railroads began charging 50 per cent more on American oak, ash, and pine than on the same classes of woods imported from European countries, the only excuse for such procedure being the claim that botanically there were slight differences between the American and the European species of woods mentioned. This clearly was a mere subterfuge."

WINE AUCTION SALES.

Consul Schumann, of Mainz, reports the following table, showing the quantity of wine disposed of during the annual spring wine auction sales in the various wine-growing districts of Germany, and the amounts realized:

	Gallons.	Amount.
Palatinate	993,200	$465,265
Middle Rhine	34,400	14,490
Moselle	501,600	437,751
Nahe	176,720	87,507
Rheingau	539,840	618,557
Rhenish-Hesse	656,213	362,314
Total, 1905	2,901,973	1,985,884
1904	2,133,066	1,490,907
1903	2,593,440	1,621,585
1902	1,930,065	2,195,579
1901	2,006,740	1,754,122
1900	1,334,980	1,384,084

CONSUMPTION OF CHAMPAGNE.

The second volume of the general report of the chamber of commerce of Frankfort contains the correct figures of the trade in sparkling wines in Germany. For the fiscal year 1903–4 a total of 10,304,691 bottles is given. The imports of French champagne amounted to about 1,200,000 bottles and the exports of German sparkling wines to about 1,100,000 bottles. In spite of the large annual sales of more than 10,000,000 bottles, the stock on hand in the various champagne factories was only 2,144,353 bottles at the beginning of the fiscal year. This, the report says, is not without danger for the development of this industry, as only well-matured champagne can be considered first class and healthy. It is also considered advisable that the labels should show the year of filling the bottles and the country of origin of the wine used for the manufacture of the champagne, the same as is done with still wines either by law or usage. The German champagne industry, contrary to that of France, where the sales of about 30,000,000 of bottles in 1903–4 decreased to about 28,000,000 in 1904–5, shows a growing tendency.

EMIGRANTS FROM BREMEN AND HAMBURG.

Consul Diederich, of Bremen, Germany, furnishes a report showing the emigration to the United States for the first six months of the current calendar year by way of Bremen and Hamburg. From this report it appears that in the period stated 113,348 emigrants sailed from Bremen, against 58,450 for the corresponding period of 1904, an increase of 54,898. The number that sailed from Hamburg this year was 65,494. The emigration by nationalities from Bremen was as follows:

Austria	33,443
Hungary	52,632
Russia	18,483
Germany	7,184
All others	1,606
Total	113,348

The departures from Bremen this year, by months, were as follows:

January	12,806
February	20,555
March	24,260
April	20,424
May	21,591
June	13,712
Total	113,348

From Hamburg the immigration for the first six months of the current year, by nationalities, was as follows:

Austria-Hungary	33,570
Russia	24,442
Germany	4,800
All others	2,682
Total	65,494

Commenting on the foregoing figures, Consul Diederick says:

"The caravan of aliens that passed through Bremen on their way to our shores was almost again as long in 1905 as in 1904. And every one of the 113,348 persons was vaccinated and closely inspected, under the supervision of the American consulate as to their physical condition, in accordance with our sanitary laws. This laborious process of sifting out all the undesirable elements resulted in rejecting 1,881 persons who had come from Russia or Hungary, or some other Eastern country, and who were thus obliged to return. Among these unfortunates were 944 cases of trachoma. It is also worthy of note that since the beginning of this year 4,113 emigrants, mostly Russians, passed through Bremen en route to England, supposedly also bound for the United States. At this writing there is a lull in the exodus, all outgoing trans-Atlantic steamers carrying only light lists of steerage passengers, but there is reason to believe that the year 1905 will break all former records for emigration from this port."

ACTIVITY IN THE ORIENTAL TRADE.

A Singapore newspaper article on Germany's activity in the Oriental trade has been widely copied by the German papers, and is made the subject of a report by Consul-General Guenther, who says:

German mercantile ability is demonstrated by the great advancement of her trade and enterprises in the Celestial Empire within the last few years. German trade grows more rapidly there than that of any other country. Germany's imports into Hankau aggregated $952,000. She has invested in the coal mines of Ping-Saing nearly $1,000,000; in Chinese cotton mills, $2,300,000; in silk factories, $476,000; in grain mills, $1,660,000; Shanghai gas works, $71,000; in wharfs, docks, and lighters, $1,900,000.

Seven German steamers ply on the Yangtze River. The North German Lloyd runs 27 steamships in the coasting trade between Shanghai and Tientsin; every fortnight a steamship arrives at Shanghai coming from Bremen direct. In 1903, 328 steamships carrying the German flag visited the port of Shanghai.

Germany controls 60 per cent of the import and 45 per cent of the export trade of Tientsin. The number of German firms there is 29. Before the Boxer riots there were only 12. German capital aggregating $4,522,000 is engaged in that place. Similar reports of German trade advance come from Chefoo and other points along the coast of China.

A leading German export journal urges upon the German Government to strive to obtain influence and place in the "administration of the Chinese maritime customs," so as to promote German trade interests in China. It also recommends the establishment of German missionary schools, hospitals, etc., for the same purpose.

TRADE WITH ARGENTINA.

In the year 1904 Germany exported goods to the value of $24,442,600 to the Argentine Republic, exceeding her last year's exports thereto by 44.5 per cent. Textiles, machinery, ironware, and paper articles are the principal items sold to Argentina. In the same year Germany's

imports from that Republic aggregated $80,087,000; wool, wheat, linseed, cattle hides, and Indian corn forming 88 per cent of the total. German commercial manufacturers and shipping interests are much concerned about the future state of German trade relations with Argentina, which are analogous to those with the United States. Both of these American republics are most valuable customers for Germany's manufacturers and to her shipping trade. They supply her with indispensable raw materials and foodstuffs. Germany can not miss these countries in their twofold character of customer and supply source. In order to retain the connection the most favorable treaty terms must be accorded them.

WITH BRAZIL.

Consul Ernest L. Harris, of Chemnitz, writes that the annual report of the Hamburg-South American Steamship Company, recently published, contains interesting information regarding German commerce with Brazil. In spite of an increase of the Brazilian tariff on most imported products German trade with that country can be said to be satisfactory. The extensive improvements undertaken among the docks of Rio de Janeiro during the past year have greatly increased the bulk of England's trade with Brazil for the reason that British capital has been chiefly invested in the enterprise, and the promoters have, as far as possible, placed the necessary orders for building materials with English manufacturers. The German steamship line from whose annual report this information is taken has established a branch line along the Brazilian coast, which is primarily intended for the benefit of the small German farming settlements near the sea. Better facilities for carrying their products to market has been a long-felt want.

WITH MEDITERRANEAN COUNTRIES.

Consul-General Guenther reports that according to consular and business reports German shipping in the western part of the Mediterranean is increasing. French business men especially complain of the successful competition of the Germans and the lack of enterprise on part of the French shipowners. The chamber of commerce of Marseille stated recently that German competition is becoming more and more felt also on the French coast of the Mediterranean. The North German Lloyd, by establishing a steamer line between Marseille and Egypt, almost monopolizes the tourists' travel to Egypt, and the season trips of the Hamburg-American line between the French and Italian Riviera furnish new proof for the enterprise of German shipowners. Between Nice and Genoa, and between Naples and Capri, the German lines, as far as passenger traffic is concerned, have almost a monopoly, because their vessels are far superior to the French and Italian ships. At Naples the traffic of German vessels is larger than that of England, and in Genoa the German flag closely follows that of England.

HOSIERY EXPORTS.

Consul Creevey, writing from Glauchau, Germany, says that the exports of dress goods for the fiscal year 1904–5 amounted to $266,451,

against $367,912 for a like period last year. The exports of hosiery were: Cotton, $335,021 in 1905, $83,570 in 1904; silk, $51,277 and $7,250, respectively; woolen, $2,806 and $3,630. These were the only items worthy of emphasis in a total of $813,157 in 1905 and $622,819 in 1904.

REGISTERED PATTERNS.

Consul-General Guenther reports that 16,969 patterns were registered during the month of June of this year with German courts, of which number 3,730 were for plastic and 13,239 for smooth or plain patterns. The number of persons registering these patterns was 521. The greatest number of registrations was at the court of Plauen, where 8 persons registered 2,607 plain patterns, followed by the Court I at Berlin with 2,195 patterns, 215 plastic and 1,980 plain. Of the 1,980 plain patterns, 1,685 were registered by 13 foreigners.

At Barmen the number of registrations, mostly for plain patterns, was 1,248. At no other court the registrations exceeded 1,000. Since establishing registry of patterns in Germany, up to June 30, 1905, 2,725,542 patterns were recorded, of which 756,299 were plastic and 1,968,843 plain.

FRAUD PUNISHED.

A Worms manufacturer of mineral water was recently sentenced to pay a fine of 200 marks ($48) for having affixed the labels of a natural spring to his manufactured mineral water.

Another prosecution for adulteration occurred at Bamberg, in Bavaria, where a manufacturer of brandy was sentenced to $700 fine and forty-five days' imprisonment for having sold an adulteration for genuine French cognac brandy. His accomplice and agent were sentenced to one and one-half and three years' imprisonment, respectively. The trial consumed much time, many experts being examined.

EXPOSITION AT BERLIN.

From the 21st to the 26th of June, 1906, a large agricultural exposition is to be held at Berlin, which will also comprise a special division for preserved-food articles, such as products of the dairy, dough, potatoes, fruits, wines and extracts, meats, beer, etc. Money prizes, diplomas, and medals will be awarded. In order to test the preserving capacity of these exhibits they will be sent to the Tropics, and as the journey will last several months, parties desiring to enter such exhibits must report by August 31, 1905, to Deutsche Landwirtsgesellschaft, Berlin S. W., Dessauer Strasse 14.

BAVARIA.

INDUSTRIAL AND ART EXPOSITION.

Consul Baldwin, of Nuremberg, reports that there will be held in that city, from May to October, 1906, a general industrial, trade, and art exposition of the Kingdom of Bavaria. The consul writes:

Similar expositions, but on a smaller scale, have already been held in this city in the years 1882 and 1896, and they have both been

attended with great success. The forthcoming exposition will be held in commemoration of the fact that next year will be the one hundreth anniversary that Bavaria, hitherto an electorate, was raised to a kingdom. It was Napoleon I who raised Bavaria to the rank of a kingdom, enlarging it at the same time by important additions of territory, thus showing his gratitude to the Bavarians, his allies at that time in his war against Austria.

The proposed exposition which will be held under the protectorate of Prince Regent Luitpold, the present ruler of Bavaria, is to give a complete view of all the resources, productions, and industries of this Kingdom, which at present has a population of 6,500,000 inhabitants and an area of 29,343 square miles. The exposition is about forty minutes' walk from the center of the city, in a newly laid out public park, with a pretty little lake adjoining it, and will cover an area of 336 acres, of which half is taken up by the aforesaid lake.

This exposition promises to be a very extensive affair and may present much to interest our countrymen, as there are many articles of manufacture in which Bavaria excels and which are exported to all parts of the world. Principal among these are toys, lead pencils, and bronze powder; then plate and window glass and mirrors, lenses, gold and silver trimmings, gloves, glassware, iron and tile stoves, sewing machines, artistic manufactures in ivory and forged iron, majolica and faience articles, pianos, guitars and zithers, baskets, colored, gold, silver, and pressed paper, papier-maché goods, altar furniture, flags, banners, embroideries, stained and painted glass windows for churches, etc.

The beer breweries of Bavaria have a world-wide reputation and therefore all apparatus and machinery in the manufacture of the same will be shown. The art department, too, will be of great interest, Munich, the capital of Bavaria, being the great art center of Germany. With the exception of Paris there is no other city in Europe in which so many distinguished painters, both domestic and foreign, reside. Very interesting collective exhibits will be made, as, for instance, furnished rooms, showing wall, ceiling, and floor decorations, with furniture, curtains, stoves, mirrors, etc. Then the Bavarian government, the city of Nuremberg, and various other administrations will make collective exhibits of articles and appliances connected with postal, telegraphic, military, educational, sanitary, and municipal institutions. Generally speaking, it will be a very interesting exposition and well worth visiting.

WANDERING TEACHERS.

Consul William Bardel, writing from Bamberg, says that in order to promote agricultural interests the Kingdom of Bavaria has established agricultural schools in 31 towns. These schools are in charge of teachers who, in addition to an academical education, must be generally efficient in botany, geology, chemistry, physics, zoology, and natural history. The consul says:

At a time when nothing is doing in the fields, from November to March, these schools are open, and peasant farmers for a nominal fee can attend courses on cultivation and fertilization of the soil, the proper

succession of crops on the same land, the best sources for good seeds, irrigation, and the raising of stock. They are made acquainted with improvements and new inventions in agricultural implements the adoption of which can be recommended. They are taught the rudiments of bookkeeping and other commercial knowledge essential for the up-to-date farmer.

In the spring, after these farmers have returned to their work in the fields, it becomes the duty of the teachers who instructed them during the winter to travel from county to county and to act as advisors to the farmers. Much good results from the travels of these wandering teachers. By practical suggestions to the farmers they induce them to make valuable improvements in the cultivation of their farms.

The wandering teacher helps to form cooperative clubs for the joint interests of a number of farmers in one district. From time to time the teacher has to lecture in these clubs on any subject practical or scientific which might prove of interest to the members. These visits and lectures to the different districts are entirely free to the people, since the State assumes all expenses. There is probably no other country in the world in which so much is done by the State for its rural inhabitants as is the case in Bavaria. Other German States have these agricultural schools, but their teachers are not sent in such a practical way direct to the places where they can do the most good, as is done here. The results of this commendable care have been very gratifying.

SUGGESTIVE FIGURES ON ALCOHOLISM.

Consul Liefeld, in a report on the use of alcohol in Germany, submits some singularly suggestive figures. For example, he says the consumption in Munich, capital of Bavaria, in 1891 was 109.89 gallons per capita per annum; in Dresden, capital of Saxony, 61.81; in 1902, 78.72 and 49.92 gallons, respectively. According to Herr Siger, the decrease is due to unfavorable social conditions rather than to increased prices.

In this connection the consul calls attention to some figures for heart-disease "rejects" from the recruiting offices of the army and navy. Of these, 2.9 and 1.8, respectively, in 1891–1893; in 1893–1895, 4.3 and 2.8; in 1895–1897, 1 and 5; in 1897–1899, 11.6 and 5.72; in 1899–1901, 8.7 and 5.7; in 1901–2, 11.7 and 7.92 were rejected as unfit for service. This, some say, is due to the increase in the consumption of beer from 10½ gallons twenty years ago to an average, for the Empire, now of 32 gallons and 3 quarts.

THE "ELDERS of the Mercantile Guild of Berlin" (Chamber of Commerce) have offered a money prize of $600 for the best treatise on "The economical development of the traffic in warrants in European and American countries." The treatises must be written in German. Full particulars can be obtained by applying to the Central-Bureau der Ältesten der Kaufmannschaft, Neue Friedrichstrasse 51, Berlin.

THE MINISTER OF THE INTERIOR of the German Empire recently invited German manufacturers and exporters to his office to inspect the special report on "Foreign markets for American cotton manufactures," published by the United States Department of Commerce and Labor.

GREAT BRITAIN.

ACTIVITY OF THE BRITISH BOARD OF TRADE.

Recently the British Board of Trade, which is a governmental agency, established a bureau known as the "Commercial Intelligence Department," which department has developed a degree of activity that will interest manufacturers and merchants of the United States. Arrangements have been made to have important commercial intelligence cabled from the United States, and it appears from a paragraph printed in a recent issue of the London Times that full particulars of everything relating to the purchase of supplies for the Panama Canal have been cabled to the board of trade. The board of trade has also arranged to furnish chambers of commerce with confidential information regarding trade opportunities in foreign countries. Writing on this matter Consul Halstead, of Birmingham, says:

The British Board of Trade is furnishing the secretaries of British chambers of commerce with confidential information regarding opportunities abroad for British manufacturers. The secretaries must treat the information given them with a certain amount of discretion, furnishing it only to members interested. Under the heading, "Openings for trade," there was, for example, in one number of the journal, published by the Birmingham Chamber of Commerce, an announcement for the benefit of members that the secretary had received during the month, confidentially, from the commercial intelligence department of the board of trade the following communications for the use of members:

1. *Turin.*—A communication of interest to firms manufacturing or dealing in crystal glassware.
2. *Chile.*—Report of interest to makers of electrical machinery and supplies.
3. *Spanish North Africa.*—Communication of interest to contractors for harbor work.
4. *Panama.*—Information of interest to bridge builders.
5. *Portugal.*—Communication of interest to tramway (street car) undertakers.

It would be interesting to look at the communications which the secretary of the Birmingham Chamber of Commerce received from the board of trade; but there is no intention that foreign consuls shall have the chance to peruse them, though the Birmingham Chamber of Commerce receives regularly, through the courtesy of the Department of Commerce and Labor at Washington, the issues of Daily Consular Reports. As another instance of the efficient form which the activity of the commercial intelligence department of the British Board of Trade takes, I may state that the department has in at least one important matter instructed its representatives to cable certain desired commercial intelligence. Surely the use of the cable to convey commercial information is a new governmental function.

Though there has been much skepticism, the commercial world of Great Britain having found it hard to believe that there could actually

be prospects of British manufacturers obtaining a share in the Panama Canal equipment, there has been a great deal of interest, in fact almost an excitement, about the cabled information that the Isthmian Canal Commission had decided to buy supplies wherever they could be purchased cheapest. The board of trade commercial intelligence department not only had facilities in Washington, through the British foreign office, to ask questions, but had asked regarding the Canal Commission's position in this matter, receiving assurances which were thought satisfactory. It made arrangements that full details of all the important Panama Canal contracts and requirements as to bidding should be sent here by cable.

THE COTTON SITUATION.

Consul Hamm, of Hull, reports that at a special meeting of the International Committee of the Federation of Master Cotton Spinners and Manufacturers' Association, held in London July 31, it was decided to recommend to every cotton spinner in America and Europe to refrain from buying American cotton during the next three months, except for immediate wants, and thus try to obviate the danger of the next cotton-crop season commencing with the raw material at the extremely high price now prevailing. It was also decided to organize at once a service of correct information as to the actual consumption of cotton throughout the world.

The operative spinners and the card and blowing room workers engaged in the Lancashire cotton trade have voted by a large majority in favor of a strike. Failing a settlement the strike will begin August 21. The cause of the proposed strike is a demand for increased wages for the operatives and a refusal on the part of the employers to accede to the demand.

The cotton trade correspondent of the Leeds Yorkshire Post says:

"Egyptian cotton has advanced in price during the month fully 1 cent per pound. The outlook in regard to the new crop in Egypt is fairly satisfactory. Some authorities are of the opinion that the yield will be more than last season. In the meantime the consumption of Egyptian cotton is larger to-day than perhaps at any time, so far as Great Britain is concerned."

The same correspondent said recently:

"Cotton mill building continues in several directions. At the present moment, including mills just starting and those yet in building, there are 4,000,000 of new spindles."

This extraordinary expansion in mill building may explain the following statement:

"The position of cotton spinners to-day (July 31) is very different from what it was a few months ago. The supply of yarns for the market seems to get larger week by week, for supplies are more readily obtained by consumers. Ring yarn is getting more plentiful, owing to the starting of new mills. Shipping yarns have been inactive for the most part."

COTTON GROWING IN THE COLONIES.

The London correspondent of the Birmingham Post, describing a reception held July 26 at the Imperial Institute, says:

The object was to give an opportunity for inspecting an exhibition illustrative of British cotton cultivation and the commercial uses of cotton, and of quickening public interest in the movement for growing cotton in British possessions, which was recently inaugurated by the British Cotton-growing Association. The exhibition is so arranged that the visitor is able to trace the stages of the cotton industry from the growing plant to the completed cotton goods, which are shown in process of manufacture, and completed. Ginning machines and baling presses are shown in operation, with looms of up-to-date design.

The experimental work in the West Indies, facilitated by the circumstance that cotton cultivation is not new to these islands, already gives promise that they will be able to supply the English market with fine cotton. Cotton growing, indeed, is extending rapidly, the area under cultivation during the season 1904–5 being estimated at 14,000 acres, as compared with 4,000 acres in 1903 and 400 acres in 1902. Soil, climate, and labor conditions are favorable, and the industry is now established on a commercial basis. The necessity for the association's efforts to promote British independence is forcibly illustrated by a placard at the exhibition, which states that of the 2,775,000 tons of cotton produced all over the world the United States share is 2,317,000, while Great Britain's consumption is no less than 811,000 tons.

BRITISH MILLS WELL EQUIPPED.

The Canadian Gazette quotes one of the participants in the recent tour in Great Britain of Canadian manufacturers as follows:

We have been preached at since we were little on the subject of the marvelous pluck and enterprise of the American manufacturer, and how he was downing the effete Britisher every time. After going through some of the leading mills and factories in the Midlands and Yorkshire, we are quite prepared to put a heavy discount on this Yankee tall talk. I never saw such well-equipped mills as most of those we went through. * * * Old England has a tremendous career in front of her as a manufacturing country.

PIRACY OF LACE DESIGNS.

Consul Mahin, of Nottingham, reports that the manufacturers of lace in that city are moving to secure protection against the appropriation of their designs. The consul writes:

A long-standing grievance of the Nottingham lace manufacturer is the piracy of his designs by foreign manufacturers. In retaliation, the Nottingham manufacturer can not pirate the designs of his foreign competitor, for they are protected by British law. In this country it is only necessary for the foreign manufacturer to prove that he has used or sold the patent of his design within six months of the registration thereof in Great Britain. In foreign countries, it is broadly stated, it is necessary for registration that the patent be actually man-

ufactured in those countries. Thus the Briton is at the mercy of any unscrupulous foreign competitor, and that he is a daily sufferer is unquestionable. His grievance has become so unbearable that he has now appealed to the Government.

The matter has been discussed in Parliament, and facts have been deduced showing that the British lace manufacturer not only loses from the theft of his designs after they have been placed on the market, but he must stand, often with but partial return, a heavy expense in preparing the designs. Out of a dozen which have been elaborated at the cost of much time and money, perhaps only two or three are finally used—never the whole number—there is always a process of elimination. Moreover, the designs must be made in several different widths, and finally, of those accepted, a large stock must be made. Sometimes even before the originator can place his product on the market a foreign competitor, who has by hook or crook secured a sample of the new design, is soliciting and filling orders for it at a lower price than the owner of the design, for the pirate is relieved of all expense of preparation.

Italy, Switzerland, and Germany have arranged an agreement whereby each protects the other's industrial designs. It is officially announced that the British Government is negotiating for the inclusion of this country in a similar agreement.

THE DRESS GOODS MOVEMENT.

A Bradford, England, correspondent of the Textile World-Record, writing about dress goods manufactured in that city, says:

No United States manufacturer can have watched the exports from the Bradford consular district for the past twelve months without noticing the largely increased exports of dress goods, and they show that either America is consuming more textiles or else that Bradford manufacturers can still beat their American competitors, notwithstanding the heavy import duty which they have to face. The general opinion in Bradford is that dress goods manufacturers in New England have still very much to learn in the way of producing these goods, and but for heavy import duties American mills would be "licked" completely. Without laboring the point, let me tell your readers that our designers, manufacturers, dyers, and finishers never turned out better goods than they are doing to-day, and only let fashion favor Bradford-made goods and looms here will boom again.

SHEFFIELD'S EXPORTS TO THE UNITED STATES.

Consul Daniels, of Sheffield, England, furnishes figures showing the total value of goods exported from Sheffield to the United States during the six months ended December 31, 1904, and June 30, 1905, respectively:

The total declared value of goods exported for the six months ended June 30, 1904, was $1,065,792.85; December 31, 1904, $1,171,186.90, and June 30, 1905, was $1,258,050.55.

The following table shows the comparative gain or loss in the principal articles of export in the two periods ended December 31, 1904, and June 30, 1905, respectively:

Articles.	July 1 to Dec. 31, 1904.	Jan. 1 to June 30, 1905.	Articles.	July 1 to Dec. 31, 1904.	Jan. 1 to June 30, 1905.
Blanco (pipe clay preparation)	$2,235	$11,206	Iridium powder	$624	$375
Brass scrap	5,117	51,423	Measuring tapes	11,167	18,309
Cutlery, including razors	217,496	156,548	Machinery	1,814	.....
Cutlery (butcher's)	20,646	19,269	Platinum sponge	11,663	8,504
Electroplate	1,955	.....	Pearl and manufactures of	16,090	10,420
Edge tools	5,314	7,551	Raddle	791	1,383
Furnace flues (steel)	19,041	6,712	Steel, sheets, bars, wire, etc	751,243	830,625
Grindstones	2,549	4,661	Shears, sheep and garden	22,622	17,691
Graining combs	1,054	1,459	Tungsten metal	2,326	.....
Garden tools	4,965	3,247	Trees	.....	1,030
Horn and manufactures of	57,167	64,758	Umbrella ribs	3,411	.....
Horse hair	16,608	25,737	Vegetable fiber	1,507	1,940

In addition to the above there appears during the past six months the following new items:

Die blanks	$1,132	Rail benders	$335
Hardware	958	Spindles and flyers	1,552
Iron bars	438	Shells	202
Lead tubing	383	Saw plates	127
Motor-tire pumps	859	Traction engine	2,141
Magnets	220	Wire drawer's plates	764
Railway buffers	2,944	Wheels and axles	272

By this it will be seen that the gain is very largely made in the one item (the largest in the list) of steel in its various forms, while the items of cutlery (second in the list) show a falling off in value. Brass scrap, an item which has made its appearance during the past year, shows relatively the largest percentage of gain. This is accounted for perhaps by the fact that a leading Sheffield firm has entered the field as a purchaser of condemned or obsolete war ships and is engaged in breaking them up. Blanco, a preparation of pipe clay, shows a decided gain during the six months just past. Grindstones have doubled in value; horsehair shows a steady gain, while measuring tapes, showing a loss during the last half of the year 1904, have made a full recovery and show a decided advance. Horn in its varied forms, while slightly below its amount for the corresponding six months of a year ago, is considerably ahead of the sales for the preceding six months. Pearl, and the manufactures of, shows a steady decline, while Tungsten metal and umbrella ribs entirely disappear from the list. The trade of the consular agency at Barnsley shows a gain of $39,188 over the total of a year ago.

MANCHESTER'S EXPORTS TO THE UNITED STATES.

The exports to the United States from Manchester for the year ended June 30, 1905, as reported by Consul-General Bradley, amounted to $9,657,446.59. Important items were as follows:

Card clothing	$75,107	Cotton (American)	$7,244
Carpets and rugs	105,851	Cotton and worsted and worsted stuffs	318,129
Cattle hair	68,372	Cotton (Egyptian)	17,686
Chemicals	424,172	Cotton piece goods	2,173,582
Colors and dyestuffs	266,385		

Cotton velvets, fustians	$1,315,261	Linens	$89,537
Cotton yarn and thread	1,528,343	Linoleum	66,693
Hide cuttings	158,745	Machinery	620,281
Hides	142,113	Paper	123,320
Hosiery	69,608	Rags and paper stock	548,712
Pig iron	181,775	Silk yarn	72,309
Laces	219,592	Woolen goods	82,311
Leather	127,098		

The United States consular agent at St. Helens, which is within the consular district of Manchester, reports the declared exports to the United States to be $871,400. Items of importance were:

Bleaching powder	$482,109	Hide cuttings	$48,887
Window glass	175,648	Venetian red	28,082
Caustic soda	38,255		

BRADFORD EXPORTS TO THE UNITED STATES.

Consul Day, of Bradford, one of the large commercial and industrial centers of Great Britain, forwards a statement showing the value of declared exports to the United States for the year ending June 30, 1905, which aggregated $15,700,923, an increase of $5,268,108 over the preceding year. The detailed statement follows:

Articles.	Values.	Articles.	Values.
Alpaca hair	$33,658	Picker waste	$7,728
Animals	1,087	Plants	299
Card clothing	71,729	Ready-made clothing	606
Carpets and rugs	74,701	Rubber goods	1,962
Chemicals	1,448	Shawls, etc	560
Clocks	179	Sheepskins	504,422
Confectionery	13,082	Silk goods:	
Cotton	287	Silk and silk and cotton piece goods	13,881
Cotton cloths:		Silk seals, plushes, etc	14,141
Dress goods	288,620	Silk noils and waste	117,469
Linings	2,197,882	Spindle bands	7,514
Cotton waste	2,913	Stone	2,265
Cow and goat hair	14,973	Stuffs:	
Dyestuffs	651	Dress goods	4,036,933
Grease, etc	35,505	Linings	1,130,266
Hemp bagging	2,062	Tape, braid, etc	9,075
Household effects	11,057	Tapestry, damasks, etc	3,581
Iron, steel, etc.:		Wines and spirits	180
Wire	221,571	Wool	5,376,557
Bar	202	Wool waste	10,222
Jewelry	80	Woolen cloths	33,112
Leather:		Worsted coatings	223,472
Hides	90,202	Yarns:	
Belting	5,704	Silk	285,441
Linens	5,395	Cotton	187,813
Machinery	464,160	Worsted and mohair	22,462
Miscellaneous	4,362	Jute and linen	14,923
Mohair goat's hair	117,201		
Noils	11,959		
Paper	25,358	Total	15,700,923

INFECTED MILK.

Consul Mahin further writes that considerable interest is felt throughout England, in a current report of London's health officer dealing with that city's milk supply, most of which is received from the midland counties. The consul says:

Ir. 1902 samples of milk from the different sources of supply were tested to ascertain how far, if at all, they were affected by tuberculo-

sis, and all were found free of the bacillus. Another examination, made during the past year, and the subject of the present report, reveals a serious condition. Of 39 samples only 19 were found "clean and pure," and could be considered fit for food. The result is thus summarized:

Character of milk.	Samples.	
	No.	Per cent.
Clean and pure	19	48.7
Bacillus tuberculosis	3	7.9
Staphylococcus pyogenes aureus	7	17.6
Bacillus enteritides Gaertner	10	25.5
Total	39	100.0

The three samples containing bacillus tuberculosis were from the counties of Somerset, Suffolk, and Derby. An investigation showed diseased cows on the farms from which the samples came, notwithstanding stringent clauses in the contracts with the farmers requiring notification from them of disease in either their families or their cows. The report of the investigation in Derbyshire, which illustrates a general condition, said: "Defective ventilation and lighting in cow sheds were found and remedied. One cow was separated from the herd in consequence of 'suspected tuberculosis.' This animal was slaughtered, and the post-mortem revealed 'tuberculosis in one quarter of the udder.'" In each of these three cases the supply of milk was continued after the diseased animals were eliminated and was found free from tubercle.

The report goes into details regarding the other samples, showing conditions and results similar to those pertaining to the samples infected with bacillus tuberculosis.

The indifference of farmers and dairymen revealed by the examination is considered so alarming and so dangerous to the public health that measures are urged providing for compulsory inspection and regulation of all farms producing milk for sale, and for power of prohibition of the sale of milk anywhere from farms where the conditions are not thoroughly sanitary or where the cows are not healthy and cleanly and properly kept.

BUTTER ADULTERATIONS.

Consul Hamm, writing from Hull, forwards an interesting table about butter. His conclusion about the falling off in United States butter ought to apply with equal if not with greater force to butter coming from Australia, France, and Belgium. Tables showing the importations for a period of years, taken in connection with this table, would furnish interesting reading. Consul Hamm writes:

The annual chemical review made by the British Government of foods and drinks gives the following analysis of the preserving and coloring matter found present in the samples of imported butter analyzed. The use of boron, or boric acid, shows a considerable

increase, but adulteration with foreign fat is apparently nonexistent. The following table shows the practices of various countries:

	Samples.	Containing boron.	Containing coloring matter.		Samples.	Containing boron.	Containing coloring matter.
Holland	680	413	356	United States	69	54	43
Denmark	271	1	124	Belgium	57	57	54
Australia	232	230	74	South America	31	29	1
France	227	224	9	New Zealand	14	12	.....
Sweden	212	4	60	Germany	5	5	5
Russia	152	4	61	Iceland	4	2	4
Norway	79	0	9				
Canada	77	25	18	Total	2,110	1,061	900

If this is a correct analysis, and exported American butter contains as large a proportion of preserving and coloring matter as given in the table, it may account, in part, at least, for the large falling off in the imports of butter from the United States to Great Britain during the past ten years.

CHANCE FOR AMERICAN DAIRIES.

Consul Moe, of Dublin, Ireland, sends the following information, which, if prompt action be taken, may prove profitable to United States dairy interests:

If the report emanating from London be correct, our exporters of butter should take note that an excellent field presents itself to them to extend their business by the introduction of American butter in the markets of the United Kingdom. This market is by no means to be disregarded, and if we can gain an introduction of our butter at this seasonable time it may mean the capture of it from the Danish manufacturers, who at present virtually control it. It is generally believed that a large part of the Danish product has its origin in Finland and Russia, being repacked and prepared for the British market in Denmark. If butter can be profitably sent from Siberia and other remote districts there is no reason why the product should not come from the United States under the circumstances of direct and speedy transportation possibilities and neat and cleanly packing. An Irish press dispatch, dated London, August 2, 1905, runs as follows:

"In the present stringent condition of the butter trade a great stress is laid on telegraphic advices received to-day from Riga as to a strike outbreak at that port, where about 10,000 casks of Russian and Siberian butter are waiting to be shipped to this side. This week's arrivals will, of course, not be affected, but possibly those for next and at least the following week. Should the labor disturbances be of a protracted character in that quarter the outlook of the butter market may become increasingly serious. General supplies, especially from the continental sources, have been so much curtailed to this market, owing to the drought there, that there is at present little or no prospect of relief in sight, while Irish butter is also scarce and the Australian season practically over. Fairly large quantities were lately received from Canada, which helped matters somewhat, but there is no mistaking the abnormal shortage, which has been reflected in values up to a point never

reached during the hot season for over twenty years. A further advance under the circumstances can only be expected. Exceedingly high prices were cabled from Canada to-day."

Last year 1,432 tons of butter were imported into Ireland at the port of Dublin alone.

AGRICULTURAL RETURNS.

Consul Mahin, of Nottingham, furnishes a synopsis of the official agricultural returns of Great Britain for the calendar year 1904. The consul writes:

Of Great Britain's total land area—56,200,558 acres—45,105,766 acres are used for agriculture and stock raising. During the past thirty years there has been a steady decline in the arable part of this land and a steady increase in the stock-raising part. The arable land now amounts, roundly, to 18,000,000 acres; the pasture land to 27,000,000. The acreage devoted to small grains has declined, the most notable decrease being that of wheat, the yield of which in 1904 was only two-thirds that of 1902 and 20 per cent less than that of 1903.

Of small grain, wheat alone increased in price in 1904, other grains declining.

None of the agricultural figures for 1904 are encouraging; but the most disquieting relate to imports. The receipts of live cattle and sheep increased over those of 1903, while the import of dairy products exceeded by $155,000,000 in value those of 1903, a substantial increase, chiefly in butter. The British colonies figured mainly in this increase, a fact somewhat compensatory. An important feature of the grain import trade was the dropping of the United States from first to fourth place among the sources of foreign supply. The first place was taken by India, closely followed by Russia and Argentina. Australia largely increased its contribution and stepped ahead of Canada.

In imports the only cheerful feature is the substantial increase of the colonial contributions; yet this offers no solution of the problem of how to restore British agriculture to its pristine greatness.

Only about one-tenth of the land under crops and grass is occupied by the owners. More than a fifth of the total "holdings" in Great Britain are between 1 and 5 acres each in extent, slightly more than one-half are between 5 and 50 acres, one-third are between 50 and 300 acres, and less than one-thirtieth exceed 300 acres.

The very small proportion of owners to the total number of tillers of the soil is generally believed to be one of the greatest drawbacks to the British agricultural industry, and the extension of the Irish land-purchase scheme to the other parts of the Kingdom is urged as a remedy by persons who have studied the subject.

RESOURCES OF THE BRITISH COLONIES.

The Birmingham (England) Post of a recent date contains an eloquent address by Sir Charles Bruce on England's sources of supply for foods and the raw materials of commerce. In it the speaker refers to England's colonial history and policy, pointing to the fact that both had passed through three well-defined stages: (1) When the colonies were left free to govern themselves, with their commerce, however, completely subservient to the mother country; (2) when England, by

tampering with the internal affairs of her colonies, began to lose them (example, the American colonies), and trying to govern them by Parliament rather than by popular legislatures; (3) when the mother country made every effort to help to provide the colonies with suitable constitutions—in other words, helped them to learn how to govern themselves. Thus the 10,000,000 square miles, or nearly a fifth of the world's territorial surface now, even after the loss of the American colonies, is under the direct or indirect protection of the British flag. Of these 10,000,000 square miles, the self-governing colonies make up 7,000,000, but have a population of only 15,000,000. Many of these 7,000,000 square miles are in the Tropics. The Tropics are rich. The world wants and will want their wonderful raw materials.

A BASIC PRINCIPLE.

"To a certain extent," said Sir Charles Bruce, "we must realize the extent to which our civilization rests on the production of the Tropics, and recognize that the principle underlying all trade, that exchange of products between regions and peoples of different capacities tends to be mutually profitable, finds in commerce between our temperate and tropical regions its most natural expression."

In casting about for measures adequate to a policy resting on these considerations we must make up our minds that the chief aim of our administration must cease to be the education of the people in political methods, with a view to provide them with an equipment of political leaders and departmental officials. What we have to do is to teach them that the sure foundation of prosperity is the development of natural resources, and that in their aspirations for social equality they will find that industry, business, and commerce are far more profitable levelers than official or political places.

In supporting these arguments the Duke of Marlborough called attention to the fact that the tropical colonies could be made the source of supply of a great many of England's necessary raw materials for food and manufacturing, notably sugar, fruits, and cotton. Speaking of this last, he said it was admitted on all sides that the consumption of cotton is to increase rapidly, hence the sources of supply must be certain and sufficient. He hoped to see the British Empire made the source of a large part of the world's cotton supply. He emphasized what Sir Charles Bruce said about training by pointing to the fact that the policy of the colonial office was to train the natives of the Empire's colonies along industrial and technical rather than along clerical lines

POOR PROSPECT FOR HOPS.

Kent is the principal hop-raising county of England, and a report from Consular Agent Fuller, of Dover, says the people of that county are greatly disturbed by the poor prospects for this crop; and as this is the time for agricultural meetings and shows, the question is constantly discussed at the meetings and in the local papers. The agricultural returns for 1904, issued last week, show that the import of hops, duty free, amounted to 313,667 hundredweight, of which 147,589 hundredweight came from the United States. The acreage given to hops in England has dwindled from 71,789 acres in 1878 to 47,779 acres in 1904, a drop of 34 per cent.

Among the hop growers and factors there is a rumor that English

brewers have contracted with a Pacific coast syndicate for a supply of hops for a number of years at a uniform price of £4 10s. ($21.90) per hundredweight. The fixing of an import duty by the English Government is freely discussed, but the amount proposed by Mr. Chamberlain in his speeches, 40s. ($9.73) per hundredweight is not high enough to satisfy the more radical farmers considering that the United States' duty is 56s. ($13.63) per hundredweight.

STRIKES AND LOCKOUTS.

Consul Griffiths, of Liverpool, furnishes an interesting report on strikes in Great Britain in the past few years. He says:

A report of the board of trade on strikes and lockouts in the United Kingdom in the year 1904 has just been published. It shows that 354 labor disputes were recorded during the year, involving about 87,000 work people, or less than 1 per cent of the industrial population of the country, exclusive of agricultural laborers and seamen. The disputes, old and new, which were presented for arbitration and settlement in 1904, resulted in the loss of about 1,450,000 working days. More than two-fifths of the disputes arose in the mining and quarrying industries. Taking the whole industrial population into consideration, the time lost by these disputes amounted during the year to only about one-seventh of a day for each employee. The average annual number of labor disputes in the five years from 1899 to 1903 was 568. The average number of work people affected was 184,000, and the average duration of the disputes was 3,125,000 days. In the five preceding years, from 1894 to 1898, the average annual number of disputes was 835; the average number of work people affected, 254,000, and the average duration of the disputes 8,927,000 days.

The principal cause of the labor difficulties in 1904, as in previous years, was the wage question. There was a smaller number of persons affected by disputes last year over working arrangements and through the refusal to work with nonunion men than in the preceding year. The number of labor disputes in 1904 was far less than the annual average for the decade from 1894 to 1903, while the number of work people affected by these disputes in 1904 was about one-third of the average number affected from 1894 to 1898, and less than one-half of the average number affected from 1899 to 1903.

There are many unemployed in Great Britain at the present time, and great unrest prevails among the cotton workers because of dissatisfaction with the scale of wages paid, but misunderstandings between employers and employees seem to be diminishing, and to be more readily adjusted. Whether or not this is merely a passing phase of the labor situation in the United Kingdom or an indication of growing good will between the employers and the wage-earners can only be determined by future developments.

MINING IN THE SOUTHWEST.

Consul Stephens, of Plymouth, England, reports briefly on mining operations in Cornwall and Devon. He writes:

Last year was not a prosperous one for metalliferous mines in Cornwall and Devon. There was, however, a slight increase in the number of persons employed. Cornwall last year, with 54 mines at work,

employed 3,503 persons below ground and 2,717 above ground, a total of 6,220. Devon, with 24 mines at work, employed 285 persons under ground and 144 above ground, a total of 429. These figures show an increase of 79 in Cornwall and 60 in Devon. No females are employed in Devonshire mines, but 228 found employment in Cornish mines, all above ground. With regard to the output of minerals, the production in Cornwall last year was: Arsenic, 827 tons; arsenical pyrites, 43; copper ore, 4,433; silver ore, 35; tin, dressed, 5,986; tin, undressed, 646; and wolfram, 156, making a total of 12,126 tons. Devonshire produced of arsenic 149 tons; clays, 71,646; copper, 210; manganese, 177; slimes ore, 322; stone, 3,187; and tin, dressed, 9; a total of 75,700 tons.

Last year Cornwall had 419 quarries at work, employing 5,814 persons, and Devon 449 quarries, giving employment to 2,299 persons. Of the employees, only 4 were females, and these were all employed in Cornwall. Devon during the year produced 921,274 tons of minerals from its quarries, the details being: Chert and flint, 18,504; china clay and china stone, 68,533; potters' clay, 198,897; gravel and sand, 13,755; igneous rock, 87,592; limestone, 471,501; ocher and umber, 600; sandstone, 54,420; slate, 6,772, and other minerals, 700 tons. In Cornwall the production was 924,489 tons, comprising: Chert and flint, 3,615; china clay and china stone, 582,445; clay, unwrought, 38,616; gravel, 1,032; igneous rock, 242,936; limestone, 16,237; sandstone, 11,594; slate, 20,758, and other minerals, 7,166 tons.

COUNTERFEIT RELICS.

An article in a recent number of the Birmingham (England) Mail states that a factory in that city is turning out weekly about 1,200 flint-lock muskets, and that a large number of this antiquated firearm are also made at Liege, Belgium. These guns are sent to Central and East Africa for use by the natives, to whom the possession of modern firearms is denied by statute. Directing attention to this industry, Consul Halstead says:

It is known in the trade that many of these newly made weapons fall into the hands of travelers who regard them in the light of a "find," and a story is told of a Birmingham manufacturer having received a letter from a dealer asking him to procure some old flint locks, for which the dealer had several customers, when the manufacturer wrote that he could not supply old muskets, but was prepared to make him any number of new ones required. These were, of course, given the appearance of age. The demand for old weapons is so great, especially in the American season, that the genuine articles would go but a little way to satisfy it.

COAL CUTTING BY MACHINERY.

Consul Williams, of Cardiff, Wales, furnished the following on coal cutting in Great Britain and Ireland:

Great Britain and Ireland report a coal output of 232,428,272 tons for the year 1904, but of that amount only 6,744,044 tons were mined by cutting machines, and in fully nine-tenths of the 3,000 collieries the entire product is hewn by human hands. Many reasons are given

for the nonuse of machines, but it has been noted by more than one journal that the use of mechanical cutters is rapidly passing out of the experimental stage. No better evidence to demonstrate this fact can be found than the following table showing the increase in the number of machines used and the tonnage produced during the last two years:

Year.	Machines used.	Tons produced.
1902	483	4,161,202
1903	643	5,245,578
1904	755	6,744,044

Thus there has been an increase of over 56 per cent in the number of machines used, and an increase of over 60 per cent in the product. The greater number of machines are used in the Yorkshire and Lancashire districts, and a great future is predicted for them in the Midlands. The South Wales district, noted for its "smokeless" coal, reports an output of 43,730,415 tons in 1904; but there are only 9 machines in the Cardiff district, and their product amounted to only 40,986 tons.

With regard to the power used, it may be noted that machines operated by compressed air are the more numerous, but those operated by electricity are now gaining in popularity. Of the 755 machines in use December 31, 1904, those operated by compressed air numbered 485, and those operated by electricity 270.

It is probable that machines may be operated profitably in hundreds of collieries not now using them, and American manufacturers should not overlook such a virgin market. Only expert salesmen should be employed, and they should understand British business methods as well as their own machines, and should be accompanied by expert machinists to train the British operatives.

CONSOLIDATION OF BANKS.

Commercial circles in Great Britain are much interested in recent consolidations of banking institutions in the United Kingdom. On this subject Consul Stephens, of Plymouth, writes:

In banking and commercial circles much interest has been excited by the recent amalgamation of the Consolidated Bank of Cornwall and the great London banking house of Barclay & Co. The high position which the Consolidated Bank of Cornwall holds among provincial banks and the prestige of Barclay's make the union of interests one of the most important that has taken place in recent years.

The amalgamated concern with its headquarters in London has 382 branches throughout the country and an authorized capital of £8,500,000, with assets close to £46,000,000. It thus becomes one of the largest and most powerful banks in England.

This case of consolidation furnishes the latest instance of what has become an inevitable tendency in the banking world. Each succeeding year witnesses a diminution in the number of independent provincial banks by the process of absorption and a corresponding enlargement of the great London institutions. Doubtless the fusion of interests which is continually going on in this way adds to the strength and

solidity of the banking resources of the country, besides furthering in many ways the convenience of the mercantile community. These consolidations receive the hearty support of the British press and public.

In this connection the following from Consul Fleming, of Edinburgh, on the banks of Scotland, is pertinent:

There are 10 banks in Scotland, having an aggregate of 1,132 branches, or 1 office to each 4,000 inhabitants. The present amount of paid-up capital is $45,268,183, to which there attaches an uncalled liability of $96,517,294.50, of which liability $22,595,159.50 is callable for the purposes of business and $73,881,835 reserved for liquidation only. The average market value of the paid-up capital during 1904 was $152,204,644, as against $155,114,811 in 1903. The average holding per shareholder was $2,086 in 1894 and $1,724 in 1904. The reserve funds were $27,245,931 in 1894 and $36,040,699 last year.

The total value of real estate held by the banks is $21,208,932. The note circulation last year was $36,484,150; in 1902 it was $38,192,292. The total amount of deposits in 1904 was $497,808,784, considerably less than the deposits in 1902, when the figures were $521,294,716. It is believed that the shrinkage was due principally to the competition of municipal corporations for temporary loans at rates higher than the banks are willing to pay. The total profit declared for 1904 was $7,939,115 against $8,268,932 for 1903, a decrease of $329,817. The dividends paid for 1904 ranged from 7 to 20 per cent, averaging 14.58 per cent.

MUNICIPAL GAS SERVICE.

Consul Hamm, writing from Hull, England, about the gas plant owned and run by the municipality, says that the amount of gas produced in the year ended March, 1905, was 1,110,866,000 cubic feet, against 1,159,730,000 in 1904; 3,415,294 gallons of oil and 21,275 tons of coke were used to make the one, and 3,682,403 gallons of oil and 22,403 tons of coke to make the other. The candlepower in the first case was 17.04 standard sperm; in the second, 17.8.

The quantity of gas supplied was 0.08 per cent more than the year before, and that year showed an increase of 3.25 per cent over 1903. The coal and cannel carbonized was 456,710 tons in 1905, yielding 10,967 cubic feet of gas per ton; 458,864 in 1904, yielding 10,868 cubic feet. The number of gas consumers was 152,165 in 1905; 146,457 in 1904. The number of gas stoves and engines in 1905 was 23,862; in 1904, 17,722.

The price of gas was reduced, to ordinary consumers, from 60 to 56 cents per 1,000 cubic feet inside the city limits, and to outsiders, from 66 to 62 cents. A further reduction of 2 cents per 1,000 cubic feet was made June 24.

The cost of coal, cannel, and oil per ton carbonized was $2.5770 in 1905; in 1904, $2.7130.

The gross yearly profits, 1905, were $753,949, of which $210,561 was paid in dividends, while $2,130.48, as required by act of Parliament, went into a sinking fund. The net profit was $330,338.

The length of mains was a trifle over 858 miles, an increase in 1905 of 15 miles. The number of public lamps in the city is 17,361; in the

suburbs 2,078. Of those in the city limits, 5,866 have incandescent burners.

Estimates made by the experts of the city of income were $3,485,000; the actual receipts were $3,444,770. The estimated expenditures were $2,829,000; the actual, $2,690,820. The estimates of gross profits were $656,000; the actual, $755,950.

STREET LIGHTING IN LONDON.

At the annual conference of the Institution of Gas Engineers, the president in the course of his address congratulated the corporation of the city of London upon their recent decision to improve the lighting of the streets and save the taxpayers money by giving up "the costly electric arc lamps and substituting for them high form incandescent gas, which is both cheaper and more effective." The president thought the corporation was "better able to follow the dictates of common sense and sound commercial policy in this regard by being free from any trade entanglement, which we (speaking for the gas engineers) know from experience often constrains local authorities to act unfairly and unreasonably both to their ratepayers (taxpayers) and other undertakings." Attention was called to the fact that the fruits of recent inventions as to incandescent light were all to the benefit of the public; that in streets, places of business, and in the homes the public got ten times more light than formerly for the money they paid and have benefited far more than the manufacturer of gas from taxes made on gas by prepayment meters in reducing household labor and in the generation of power. The speaker did not see "any prospect of any alteration in the economy of the industry whereby the cost of gas delivered at the consumer's meter could be substantially reduced. Such fancies as the cheap 'eight or nine candle' gas of great heating power, imagined to be the need of the age by the recent royal commission on coal supplies, would not bear the rude touch of statistical truth. There was no such thing in existence, and there was great difficulty in seeing whence it was to come."

PROPOSALS INVITED FOR BUILDING DOCKS.

A paragraph in the Hull (England) Morning News of August 2, in regard to tenders for building a new dock at Immingham, Lincolnshire, says:

The directors of the Humber Commercial Railway and Dock Company have fixed September 20 the last day for receiving tenders for the construction at Immingham of a new dock, having a water area of about 42 acres, together with a lock and entrance from the river Humber, entrance jetties, river embankments, drain diversions, and other contingent works; also for the construction of a double line of railway, about 4¼ miles in length, commencing by a junction with the New Holland branch of the Great Central Railway at Ulceby Station, and terminating near the site of the new dock, and other railways and sidings surrounding the dock, having an aggregate length of about 4 miles. The contract will be exclusive of lock gates, machinery, equipment, permanent way, and signaling.

The Immingham docks are to be built on the Humber River, and, when finished, will be among the large works of the kind in Great Britain.

MANUFACTURE OF EXPLOSIVES.

Consul Stephens, writing from Plymouth, England, says the manufacture of explosives now ranks as one of the leading industries of southwest England. There are but few counties in the United Kingdom which possess so many factories of explosives as Cornwall. The duchy has 2 factories working under continuing certificates, 11 under license, and 20 magazines of explosives. The only counties which exceed these figures are Kent, with 18 factories, and Yorkshire with 16. Cornwall has 66 premises for the storage of explosives and 208 stores licensed for their sale, while Devon has 58 storehouses and 492 premises licensed for their sale. It is both interesting and instructive to note in this connection that, notwithstanding the large amount of explosive material manufactured and the dangerous nature of the work, so stringent is the Government supervision and thorough the management of the factories that during 1904 only 5 men were killed and 7 injured in the counties of Devon and Cornwall.

SMALL WOOD HANDLES.

As a result of numerous inquiries by manufacturers of small wood handles in the United States, Consul-General Wynne, of London, writes:

Great Britain manufactures small wood handles commensurate with her output of small tools, so far as regards chisels and small garden tools, although some are undoubtedly imported from the United States. For spades and shovels a less proportion of handles is manufactured in Great Britain. Any handles of which the manufacturers are deficient in England are for the most part imported from the United States. The woods which are mostly used are ash and beech and some boxwood.

PRODUCTION OF TIN IN WALES.

Consul Williams, of Cardiff, Wales, furnishes the following statistics relating to the production and consumption of tin:

It is difficult to secure accurate statistics relating to the production of tin, but the following table, showing the output by countries for the last three years, is approximately correct:

Country.	1902.	1903.	1904.
	Tons.	*Tons.*	*Tons.*
Malay States	53,756	54,797	58,657
Banca and Billiton	18,765	20,000	14,688
Bolivia	10,150	9,500	9,200
England	3,950	4,150	4,282
Australia	3,206	4,991	5,082
Miscellaneous	350	395	384
Total	90,177	93,893	92,243

According to these figures the production of tin is almost at a standstill, and there was an actual falling off in the output during 1904. On the other hand, the consumption is on the increase, and the accepted estimate for 1904 is as follows:

Country.	Tons.
United States	38,000
Great Britain	15,898
Germany	14,832
All other countries	25,525
Total	94,755

Thus the consumption for the year was 2,512 tons in excess of the output. Ordinarily the tin consumed is lost forever, but the increasing demand and the threatened diminution of the available stock has given rise to a new industry, the detinning of tin scrap. The statistics show that the United States consumes over 40 per cent of all the tin produced, and it should lead in this recovery of tin from scrap.

DECLINE OF THE MOTOR BICYCLE.

Consul Mahin writes that efforts to overcome the unpopularity of the motor bicycle, because of its failure to meet every condition of road travel, have proved unsuccessful. The consul says:

"The chief promise of the motor cycle rested in the expectation that these objectionable points would eventually be eliminated. But they have not been, and the expectation that they will be is fading away. Consequently, those who have the machines are growing anxious to sell them at any procurable price, while those who have none are beyond temptation to buy at almost any figure. The result, of course, is a collapse in market prices. New motor bicycles, which a year ago sold at $375, are now offered at $125. Several firms, formerly engaged extensively in making motor cycles, have entirely abandoned that branch. As might be expected, the ordinary bicycle is in correspondingly high favor. The output of factories is large at present and prices are firm. These conditions are not likely to be disturbed unless the motor cycle should be so radically improved as to remedy its present serious faults."

MOTOR VEHICLES IN SCOTLAND.

Consul Fleming, of Edinburgh, writes about the introduction of motor vehicles for public use. He says:

Motor omnibuses are being introduced in this part of Scotland for passenger service in districts inadequately supplied with suitable means of intercommunication. The North British Railway Company recently started a road motor service in Haddingtonshire, between the towns of North Berwick and Aberlady, a distance of about 8 miles. The vehicles each carry 23 passengers and have accommodation for baggage and parcels. The fare for the whole distance is 1 shilling (24 cents). A company has been organized, with a capital of $243,325, for

the purpose of establishing lines of motor omnibuses in Edinburgh and vicinity and also in other districts. This company has adopted the double-decked type of vehicle, seating 18 persons on the top and 16 inside, with space for parcels, etc. Acetylene gas is to be used for lighting. In view of the fact that the narrowness of most roads in rural Scotland is a permanent bar to electric railways, conditions are favorable for an extensive developement of motor-omnibus lines.

IRELAND.

THE MARGARINE TRADE.

The department of agriculture for Ireland reports as follows on the regulation and inspection of the margarine trade. It may be mentioned that the term "margarine," as used in the margarine act, 1887, means all substances, whether compounds or otherwise, prepared in imitation of butter, and whether mixed with butter or not.

Every manufactory of margarine or margarine cheese, and any premises wherein the business of a wholesale dealer in margarine or margarine cheese is carried on, must be registered with the local authority in such manner as the local government board for Ireland may direct, and each registration must be notified to the department by the local authority. Any officer of the department is empowered to enter at all reasonable times any manufactory of margarine or margarine cheese and to inspect any process of manufacture, and to take samples for analysis. In 1902–3 there were 9 premises registered for the manufacture of margarine or margarine cheese and 137 for wholesale dealings in these articles. The premises were registered with the local authorities of 22 administrative areas—10 boroughs and 12 counties. On April 1, 1905, the number of premises registered as being utilized for wholesale transactions in margarine and margarine cheese had fallen to 122, and there was a reduction of one in the number of registered manufactories. The consumption of margarine cheese in this country is not considerable, and is, it seems, mainly confined to the counties in the northeast of Ulster.

In many of the premises registered a trade in butter and other provisions is also carried on, the sale of margarine being merely an adjunct to the other business of the trader. Butter is also made in certain premises registered for the manufacture of margarine. A few cases, in which persons apparently engaged in wholesale transactions in margarine had neglected to apply to the local authority for a certificate of registration, came under the notice of the department's officers. The inspectors have also drawn attention to cases in which premises have ceased to be utilized for wholesale dealings in margarine and margarine cheese. The local authority concerned is in every instance apprised of such failure to register the premises or of the nonutilization of the premises for wholesale dealings, and the issue of a new certificate or the canceling of an existing certificate follows. As a result of this revision the department's register of premises at any particular time may be regarded as containing only entries of those premises in which sales actually take place, or in which the registration is effected merely as a precautionary measure.

Manufacturers of and wholesale dealers in margarine or margarine

cheese are required to keep a register showing the quantity and destination of each consignment of these substances sent out from the manufactory or place of business. Periodical visits are paid by the department's transit inspectors to the premises of these manufacturers or wholesale dealers, with the object of ascertaining if the registers are kept properly posted up to date. In no instance, however, have the irregularities been such as to necessitate the institution of legal proceedings. Comparatively few cases of failure to keep the register in the prescribed manner were reported to the department during the past year.

MARKETING AGRICULTURAL PRODUCTS.

According to the annual report of the department of agriculture for Ireland, the transit inspectors appointed by the department continue to devote much attention to the work of ascertaining the manner in which consignments of Irish agricultural products are prepared for the markets and dealt with by the carrying companies. Their reports point to a change for the better in the methods of packing and in the treatment of the consignments during transit. In all cases in which it was observed that the consignments were not properly prepared or were carelessly handled in transit representations were made to the consignors or companies concerned. Circulars have been issued to carrying companies, pointing out the need for the exercise of due care in dealing with the consignments, and to consignors, making suggestions as to the manner in which the consignments should be prepared for transit to the markets. It appeared that a quicker transit could be provided if butter were sent in such quantities as would insure through trucks to the destinations of the consignments.

Inquiries were also made into complaints received as to charges for the conveyance of articles of agricultural produce. Attention has been given to the question of the charges for the conveyance of foreign products to Great Britain. The consignments of this produce are usually large, and special arrangements can accordingly be made in regard to their transit. If Irish consignors were to combine to send their goods at certain times in large quantities, they should be able to secure lower rates for conveyance.

Several suggestions have been made to the department as to the appointment of a representative to watch the interests of Irish agricultural products in the markets of Great Britain. The department, through its transit staff, have already taken action with the view of securing this object. In 1904 73 centers in Great Britain were visited and over 400 merchants were interviewed. From these interviews it appears that much improvement has been effected in the condition in which Irish butter and eggs are placed on the markets. An improvement was noticed in the class of box used for the packing of the butter, and the consignments were very frequently inclosed in canvas covers. Many instances, however, of the use of boxes constructed of frail material, of which the several parts were badly fitted and insecurely fastened, came to the notice of the inspectors. In some instances it was found that the packages presented a soiled appearance.

In 51 cases reports were received from the department's inspectors showing, on the part of the carrying companies, improper handling of boxes of butter. In some cases the inspectors observed that butter

was loaded in wagons in which articles likely to injuriously affect it had also been placed, and on a few occasions the use of wagons quite unsuited for the conveyance of butter came under notice.

Two of the larger Irish railway companies have provided a number of refrigerator vans. In the case of certain other companies wagons specially constructed with a view to keep the butter cool are available for this traffic. At least six steamers in which butter is conveyed from Ireland to Great Britain have been fitted with refrigerating plants. Four of these steamers trade from the port of Cork and two from Waterford.

Shipping companies, it is reported, are causing increased care to be exercised in the work of loading and unloading. In some instances the butter is placed in crates and hoisted on board the steamers, and it remains in these crates during the sea portion of the journey. This plan obviates the risk of injury to the packages through the pressure of slings when they are being placed on or taken from the vessels.

Similar action is taken with regard to eggs as with butter.

TRAMWAY FOR REMOVING GARBAGE.

The Dublin corporation proposes to dispose of city refuse by filling up the lowlands near Fairview, and contemplates using the tramway tracks for this purpose during the night hours when the traffic over the lines has ceased. The corporation has the power to use the tramways for such a purpose between midnight and 7 a. m., so long as the company's traffic is not interfered with, but there is no obligation on the company to supply the power for running the cars. A committee of the corporation has requested that such power be furnished by the company, and as the wear and tear on the rails is slight, the request will be complied with. Power will be supplied for the purposes mentioned at a flat or uniform rate of 2 cents per unit. This increased demand for electric power will benefit not only the city but the company as well, as a continuous load may be generated at an average less expense to both parties.

It has not as yet been found feasible to have a half-penny rate in Dublin, though such fares exist in Glasgow and other large cities in Great Britain. It is worth while to record the sentiment of one of the directors at the half-yearly meeting, who, amidst the applause of his fellow directors, stated that "as to the working of the tramways he always felt that as they had a great public right they were under a great obligation to serve the public well, and he tried to impress that on everyone in the company."

TURBINE ENGINES IN GRISTMILLS.

Consul Knabenshue, Belfast, Ireland, calls attention to mills in that city driven by steam turbine engines. He writes:

These mills have employed three turbines of 100 horsepower each of the De Laval type since December 12, 1904, to drive their Indian corn milling machinery, and they have proved a success. Two additional turbine engines, of 300 and 200 indicated horsepower, respectively, have been installed to drive all the flouring machinery. The

mills occupy a large structure in the shape of a letter L. To avoid bevel gear, two engines were installed, one for each arm of the building. The maize mill turns out 5 tons (2,240 pounds) per hour. The output of the flouring mill is 50 barrels per hour. The mills use exclusively an Australian white wheat. It is of excellent quality, the grain being very plump. After the ordinary process of screening, scouring, etc., the wheat is washed by machinery and then dried before going to the rolls.

As to the economy of the turbine engines as compared with the old horizontal reciprocating ones, the new installation has not been in operation long enough to determine accurately more than this—that their power is not more costly than the latter. They offer the following advantages: Great economy of space; fewer stoppages of machinery for minor repairs to engines; much smaller initial cost; easy repairing; all moving parts can be renewed at a cost that need never exceed $125, and duplicate parts are kept in stock, so that the time of stoppage is reduced to a minimum; the services of at least one engineer less; steadier drive of the wheels, which makes the work of the purifiers, etc., much more accurate.

FRANCE.

OUTLOOK FOR FRUIT CROP.

Consul Thackara, writing from Havre, sends a timely report on the fruit outlook in France. He says there will be a good demand for apples and apricots, and that careful packing and honorable dealing are sure to secure for American fruit dealers a large part of French trade. He writes:

It is somewhat early to make an accurate prediction as to the bulk and quality of the coming French fruit crop, but it may be of interest to the growers and exporters of American fruit to learn what are the prospects at this time for securing an outlet for the sale of their products in the Havre market. Unless there should be unusually unfavorable climatic conditions during the next six weeks the chances are that the French prune crop will be above the average, as all reports from the growing districts are satisfactory. The large sizes, however, are not abundant, and there may be some business done with the United States in 30 400 and 40 500, provided the American prices become lower. They are too high at present to compete with those of the native-grown fruit.

PRICES OF FRENCH AND AMERICAN PRUNES.

In the following table are shown the prices at which French prunes of the 1905 crop were offered to grocers July 31 last, with the parity of American prices—that is, American grades that under existing conditions would have to be offered so as to compete with the French grades set over against them - and sizes obtained by deducting from the French prices the customs and other charges, and the prices of

American prunes f. o. b. Havre, which were quoted on July 31. The prices are for 100 kilograms (220.46 pounds).

French prunes.		American equivalents.		American prunes.	
Sizes.	Value.	Sizes.	Value.	Sizes.	Value.
50/55	$16.98	40/50	$13.51	30/40	$16.31
60/65	12.74	50/60	9.65	40/50	14.42
70/75	10.81	60/70	7.72	50/60	13.32
80/85	8.88	70/80	5.79	60/70	12.35
90/95	7.72	80/90	4.825	70/80	11.39
100/105	6.56	90/100	3.86	80/90	10.42

The difference in the classification of the sizes of the French and American prunes is owing to the fact that the French prunes are sized by the number of prunes in a French pound, or half a kilogram, which equals 1.1 English pounds, and the American prunes according to the number of prunes in an English pound.

From the above table it will be seen that the local importers, in order to compete with the present prices of French prunes, would have to purchase the American fruit f. o. b. Havre, 40/50's, for example, at $13.51 per 100 kilograms, while the price quoted by the American exporters July 31 last was $14.42. In the smaller sizes the difference in prices is still more marked.

Comparatively large stocks of prunes have been left over from last season. Accurate statistics are not available, as most of the fruit is stored in private warehouses, but reliable merchants estimate the amount of American prunes in Havre at the end of July at from 15,000 to 20,000 boxes, mostly of the crop of 1903. It is supposed that the producers, merchants, and brokers in the interior of France are carrying over large stocks of native prunes of the 1904 crop.

APRICOT CROP PROMISING.

The prospects for a good native crop of apricots are favorable, but owing to the low prices of the American fruit now ruling in the United States purchases have already been made for importation into France, and there will probably be a fair demand for American apricots during the coming season. There are no stocks of apricots left over in Havre from last year. The prices for American apricots f. o. b., Havre, on July 31 last, per 110.23 pounds in 12½-kilogram (27.55 pounds) boxes f. o. b., Havre, were: Choice, $16.21; extra choice, $17.37, and fancy, $19.30 for August and September deliveries.

APPLES AND CIDER.

All the reports from the apple-growing districts of France indicate that the coming crop will be much below the average. Owing to the abundant native crop of last year large quantities of cider were made by the farmers, and considerable stocks are now on hand. It is also estimated that there still remain in Havre trom 4,000 to 5,000 barrels of chopped American apples of the crop of 1903, more or less deteriorated, notwithstanding which the dealers anticipate an average trade in the American product. The demand for local consumption is diminishing the amount of sound fruit left over from last year.

According to statistics of the minister of agriculture, the cider production of France in 1904 was 960,442,000 gallons, as compared with 119,018,000 gallons in 1903.

It is thought that there will be a good trade in American evaporated apples, whole and sliced, and in American fresh apples for table use. The prices ruling July 31 last per 100 kilograms (220 pounds) f. o. b. Havre were: American evaporated apples, whole and sliced, in 25-kilogram (55-pound) boxes, for October and November shipment, $16.02; good sound American chopped apples, October and November shipments, in barrels, $5.79. There are no stocks of American evaporated apples left over in Havre from last year.

IMPORTS OF DRIED FRUIT.

In the following table are given the imports of fresh and dried apples and other dried fruits into France for consumption during the first six months of the last three years. The bulk of the dried fruit was of American origin. The figures represent pounds:

Fruits.	1903.	1904.	1905.
	Pounds.	*Pounds.*	*Pounds.*
Fresh apples and pears	10,895,000	7,629,000	4,211,000
Dried, for table use (evaporated)	1,005,000	3,156,000	315,000
Chopped apples, for cider making	11,740,000	16,496,000	1,908,000
Dried prunes	17,090,000	20,165,000	91,900
Other dried fruits, mostly apricots	4,573,000	5,477,000	4,181,000

ADVICE TO AMERICAN SHIPPERS.

It will be readily seen from the above table that, owing to the unusually abundant fruit crops in France last year, the importations of all American dried fruits showed a great falling off, especially those of dried prunes. I would again call the attention of American shippers to the care which should be taken in the preparation and packing of dried fruit intended for the French market.

The local importers having reasonably assured themselves that, owing to the condition of the coming native crop, there will be a demand for American chopped apples, generally commence making their purchases in June or July for shipment from October to March. Under ordinary circumstances the American fruit does not enter into consumption before March, continuing to August of the next year; or, in other words, until after the stocks of fresh native cider apples have been exhausted. As there is no cold storage at Havre, the imported apples, during warm weather, if they are overripe or are too moist, will ferment and become deteriorated.

Properly prepared chopped apples—that is, those which are well dried and lightly packed in the barrels—can be stored for a considerable period without loss, as may be seen from the condition of some of the American apples of the 1903 crop still on hand at Havre. It is therefore to the interest of our shippers to send first-class goods only, for the more confidence the importers have in the keeping qualities of the American fruit the larger will be their orders. Mixing peelings, skins, and small chips, or apple waste with good apples should be avoided, as inferior goods invariably lead to claims and perhaps litigation.

Light-colored apricots, technically called "bright goods," are those most wanted in the French market.

Care should be taken that the boxes in which prunes and apricots are packed are of sufficient strength to stand the handling they receive while being transported to France.

PRUNE PRODUCTION IN THE UNITED STATES.

In connection with the foregoing, the following information about the growth of prunes in the United States, and their export, is pertinent:

In the United States 100,000,000 pounds of prunes are eaten yearly. Prior to 1886 the supply came almost wholly from France and the Danubian provinces and sold under the designation of "French" or "Turkish" prunes. In the year referred to prunes of American growth appeared on the market and with each succeeding year the supply has increased until the importation of foreign fruit has been reduced to extremely small proportions. Much the larger portion of the prune supply is from the southern part of California, where climatic peculiarities are extremely favorable for its production. In Santa Clara County alone there are 3,700,000 trees growing on 37,000 acres—100 to the acre. The quantity of prunes somewhat exceeds 110,000,000 pounds—more than enough for the requirements of the whole country, but the excess, with that raised in other localities, is needed to supply the export demand from Great Britain, Germany, and France. The first plum trees planted forty years ago in California were shoots from the "Petite" and "Epineuse" varieties from France. The original varieties have been greatly improved upon.

After the planting, which is usually done in the rainy season, the shoots are cut down to a uniform height of about 2 feet. In the second year the trees are pruned, from three to five branches being left, and are again pruned in the third and fourth years. Twice during the spring and summer the soil is cultivated. In September the fruit ripens and is gathered by spreading sheets under the trees and shaking the branches. The green fruit is taken to the warehouse, where it is graded in size and passed through a boiling hot liquid, in which process it is cleaned and the outer skin softens. It is then spread out in trays 8 feet by 3 feet in size and exposed to the heat of the sun for three to eight days, depending upon weather conditions.

Ten thousand trays of fruit spread out in one unbroken tract may be seen in Santa Clara in the drying season. When sufficiently cured the prunes are stored in separate bins and there allowed to "sweat," this process taking from ten to twelve days, when they are ready for marketing.

TO EXCLUDE AMERICAN FRUITS.

Consul Louis Goldschmidt, of Nantes, reports that an agitation has been started to secure the passage of a law to prohibit the importation of American dried and fresh fruits, plants, shrubs, etc., upon the ground that such importations are likely to introduce the San Jose scale. The matter has been taken up by chambers of commerce at Clermont, Ferrand, Angers, and other places, and the newspapers are advocating an exclusion law. For the year ending June 30, 1905,

there was exported from Angers to the United States plants to the value of $79,043 and seeds $52,976. The consul quotes a leading importer as saying:

To-day American dried fruits (prunes and apricots) are very well received by the French consumer, particularly those prunes coming from the Santa Clara Valley. The American way of packing is also desired, when it is well done, and the goods are put up in boxes containing 12½ kilograms net of fruit, with lace paper or fancy paper on top of the fruit. But many complaints are heard concerning boxes which are too weak and cause breakage, which frequently spoils or damages the contents. This is one of the points to which packers should pay particular attention, as carelessness in packing causes prejudice to the goods.

The prunes from California can be much better preserved than the French prunes, and the Americans seem to have reached perfection in that line, as the fruit, if properly handled, may be kept longer than our products. It is particularly the larger sizes that are desirable and sell readily. Those of 30 to 40 to the pound up to 60 to 70 to the pound are what is wanted here. The smaller ones do not sell readily here.

Importation of American prunes into France is only possible when the native crop is poor or very small, as under conditions of equality in price the French prune is preferred, which seems to have a better taste and contains more meat and a smaller kernel. However, the California prune is popular here and will sell readily each time that the crop in France falls below a certain amount.

REPACKING AMERICAN PRUNES.

Concerning the repacking of American prunes into French receptacles the same gentleman said:

Some three or four years ago, when the prune crop here was a complete failure, the country producing these prunes—Agen—tried to import prunes from California in barrels and boxes, and afterwards repacked them in the French manner, which permitted the raising of prices. But the consumer soon perceived the fraud, and to-day it is impossible to repeat this, as the consumer, who is accustomed to California prunes, wants them in their original boxes. The American dried apricot has obtained a good foothold here, and meets with no competition worth mentioning.

Commenting on the foregoing, the consul says:

I believe there is no serious reason for this agitation against American fruits, and against dried fruit in particular, and it seems apparent that the main reason in view by the agitators is not only to discredit our fruits (since there is no serious importation when the crops are good here), but also to damage their reputation elsewhere, with the hope, possibly, to drive our fruit out of other markets, where the French fruit may replace it. The resolution by the chamber of commerce at Clermond Ferrand contains an allusion to Switzerland which clearly indicates such a hope. With these facts in mind it should be easy to circumvent any attempts at injuring our commerce in such an unfair way.

SHIP SUBSIDIES.

Consul Goldschmidt further reports that according to articles in the French press it is very probable that France is soon to grant ship subsidies. The French Parliament is to assist in every way to build up the French merchant marine. A law has been proposed with that object in view. It is intended to encourage the building of vessels by French yards and to encourage the flying of the French flag by compensating owners of ships under it for any apparent advantages accorded the shipping interests of other countries by their respective governments. Mr. Goldschmidt sends a translation of two articles published in Le Phare, a leading maritime paper of Nantes. Summarized, the article alluded to says:

"The granting of subsidies is a two-sided question. The merchant marine (of France) in spite of twenty-five years of subsidy, has not been a great success. Of course one must keep in mind the public value of the merchant marine as the auxiliary of French trade. The interests of the shipbuilders and the shipowners are sharply separated. Shipbuilders, by the law, if it goes into effect, are to receive 'premiums of construction,' based upon a rate which is calculated to permit French yards to compete with foreign yards. The premium must be large enough to meet not only import duties on shipbuilding materials, but also to balance natural advantages."

After giving minute details of the difference in the cost of labor, as compared with England, the amounts to be paid for building ships of steel or iron is $27.80 per ton, and $18.33 per ton on steel or iron sailing vessels, and $5.79 and $7.72 for wooden vessels above or below 150 tons. Special grants are accorded to makers of marine machinery. Owners are not only to be permitted to purchase ships abroad, but they may get the Government navigation grants.

It is contended by Le Phare that the merchant marine of France, although not decreasing in tonnage, has signally failed to keep up with other great maritime countries of Europe and Asia. The merchant marine tonnage of France in 1886 was 992,000, in 1902, 1,218,000; Great Britain's, 7,321,000 and 10,029,000, respectively; Germany's, 1,283,000 and 2,203,000; Japan's, 119,000 and 944,000.

FERTILIZERS IN MARSEILLE.

In compliance with requests from American manufacturers of and dealers in fertilizers, Consul Skinner, of Marseille, makes the following report:

The most important article imported into France for fertilizing purposes is rock phosphate, the greater part of which is received from Algeria. Thus in 1902, the latest year for which complete figures are immediately available, the total French importation amounted to 305,130 tons, of which amount Algeria supplied 173,461 tons. The Mediterranean is naturally supplied principally by Algeria. In 1904 Marseille received 24,563 tons of phosphate, and in the year ended June 30, 1904, Cette, a few miles west of this city, received 57,050 tons, of which the United States furnished 10,477 tons.

At present phosphate rock sells in Marseille at 10.05 cents per unit of phosphate and per ton.

The following table sets forth the importations at Marseille during 1904 of the principal articles taken up in this market for fertilizing purposes:

	Kilos.		Kilos.
Rock phosphate	24,563,435	Chloride of potassium	593,040
Incinerated bone ashes	891,750	Nitrate of potash	1,993,751
Degelatined bone dust	11,203,549	Kainite	190,899
Sulphate of copper	1,844,376	Nitrate of soda	5,939,270
Sulphate of potash	442,430	Bisulphate of potash	12,539

It will be observed that one of the most important items in the foregoing is nitrate of soda. Three-quarters of the total amount reaching France is received at Dunkerque from Chile. Prices are very variable, so variable, in fact, that professors of agriculture are advising farmers that "nitrate of soda is not an indispensable fertilizer. It is only to be employed when it furnishes one kilogram of azote at a lower cost than other agents, such as blood, horns, flesh, and, above all, sulphate of ammonia."

French chloride of potassium averages from 56 to 57 per cent of potash. At present, owing to German competition, the refining operations are pressed less far, and the chloride of potassium contains from 78 to 82 per cent of pure salt, or an average of 50 per cent of potash. The German chloride comes from Stassfurt, and contains from 80 to 85 per cent of salt, or 50 to 53 per cent of potash.

Desultory attempts have been made to import American sulphate of copper into this country, but owing to the excess duty of one franc (19.3 cents) per 100 kilograms (220 pounds), which American sulphate of copper pays, the American offerings must be by that amount lower than those from Spain and England. At the present time this article is quoted at $8.78 per 220 pounds c. i. f. Marseille from England or Spain, or $9.65 per 220 pounds duty paid.

Marseille is a producing point for large quantities of oil cake and meal used for fertilizing purposes.

I submit a number of addresses of importers, commission agents, or manufacturers in Marseille who might be interested in American propositions. It is to be added that American manufacturers will probably be best able to dispose of their products abroad by securing a thoroughly competent local commission agent capable of handling the entire trade.

Importers: F. Boubée, 52, rue Longue des Capucines; Schloesing Frères, 1, rue Armény; Sulfran Puget, 189, rue Paradis (bisulphate of potash); Oscar Gross & Co., 8, rue Jaubert (commission); Garcin & Delage, boulevard Maurin, Cabucelle, Marseille (Algerian phosphates, horns, hoofs, and hair); Manufactures de St. Gobain, 16, place St. Ferréol (iron pyrites and phosphates); Emery, 2, rue des Trois-Mages; Giraud Fils, 20, avenue d'Arenc; Société des Produits chimiques de Marseille l'Estaque, 12, rue Breteuil; P. Milland Fils, 20, rue Haxo; Jean Goutte, 9, rue Turenne; F. Queyrel, 1, rue Estelle; Société Méridionale de Produits chimiques agricoles, 21, rue Sylbabelle.

MARSEILLE'S OIL AND SEED TRADE.

The imports of American and other cotton oil and oil-making material received at Marseille during the first six months of 1905 confirm the expectations expressed in a previous report. The total receipts of

oil-making material received during the six months amount to 237,236 tons, against 278,638 tons during the same period last year. This fact, together with the reports in regard to a shortage in the American cotton crop, have stiffened the local market, which at various times during the first half year has resold American cotton oil to American buyers, taking the higher profit resulting from the unusual situation. While the market will doubtless have its ups and downs, the requirements of consumers will probably compel the continued importation of American oil, and make the receipts for the year very much higher than anything in recent experience.

The import figures in detail are as follows, stated in tons:

	1905.	1904.		1905.	1904.
Peanuts:			Cotton seed	7,593	7,420
Shelled	76,786	72,416	Sesame seed	36,355	65,056
Unshelled	44,716	68,177	Copra	49,776	40,994
Linseed	7,652	8,530	Palm kernels	2,288	3,443
Rape seed, etc	786	1,362	Mowrah seed, etc	1,158	2,256
Poppy seed	3,207	1,874			
Castor seed	6,919	7,111	Total	237,236	278,638

In the same period the arrivals of cotton-seed oil aggregated 24,761 tons against 10,842 tons for the first six months of 1904. Of this the United States contributed 24,705 tons in 1905 against 9,478 tons in 1904.

SALTED HIDES FOR THE UNITED STATES.

Mr. G. Wilfred Pierce, of Newark, N. J., writes to the Bureau of Manufactures regarding importation of salted hides and the use made of them:

I received to-day (August 5) from one of the principal makers of patent and enameled leather in this city a letter written by him from Paris, France, in which he gives an account of the recent purchase by him of 200,000 salted hides for shipment to this city, where most of the product therefrom will be made into patent-leather visors for caps for the British, French, Belgian, and several other armies.

These French hides come from cattle slaughtered for the markets of Paris. The grains measure on the average 65 feet to each skin. The average measurement of the best types of hides from American range cattle is 55 feet. It costs but little more to tan and dress the large French hides than is expended on the 55 feet American hides. Under present conditions of ocean freights, and the liberal system of bounties afforded to French shipping, the cost of carriage from France to this city on shipments of hides is somewhat under the present charge for railroad carriage from the western markets for salted hides to this city. It is estimated by a dozen large leather manufacturers of this city that at least 25 per cent of their best products are exported to Europe. On these exports they receive the drawback of 15 per cent, being the equivalent of the impost paid by them on imported hides.

To-day there are four leather manufacturers of this city and vicinity searching Europe for salted hides. This is because there is a legitimate shortage in American hides, owing to the fact that when extraordinary high prices for beef prevailed one and two years ago many cattle owners sacrificed their live stock in order to reap large profits, and without giving a thought to the fact that they were not making

provision for a future supply by saving their best bulls, cows, and calves. The makers of leather in this country are prepared to sign contracts to take twice as many high-grade hides as they are likely to procure for a long time to come from American markets. Two New Jersey leather buyers of salted hides are in Hungary buying up all they can get of the largest kinds of hides for use by the local makers of dressed leather for western and eastern makers of automobiles. Because of the great prosperity of the western States the market here for automobile and carriage leather is busier than was ever known before. Prices are high and tending higher, with every man and woman employed that can be had for work. The foreign orders on the books of New Jersey leather makers are much greater in number and amount than ever before, more especially for the account of British markets.

INTERNATIONAL EXPOSITION.

Consul William P. Atwell, of Roubaix, writes that the international exposition to be held in the spring of 1906 at Tourcoing will afford excellent opportunity to Americans desiring to bring their goods before the French public. While the chief feature of the exposition will be the textile industries of the surrounding country, wool predominating, other industries will be well represented. Machinery will be exhibited on an extended scale. Referring to the international character of the exposition the consul quotes Mr. E. S. Lami, director general, as follows:

"What others are doing is even more interesting than what we do ourselves. We shall appeal to the great constructors of machinery in England, America, and Germany. They will bring to us their perfected machines, and we may then select for our national industry all that is best calculated to advance its interests. Machines will be in operation from 2 o'clock until 5, and will be far more instructive than the inert looms which we saw at the Paris Exposition in 1900. Sections are to be reserved for chemicals and for articles of every kind appertaining to agriculture. There will be exhibits also of carpets, furniture, and draperies."

The consul expresses the belief that this exposition will offer an unusual opportunity to extend American trade in the north of France.

SPAIN.

A GOOD OPPORTUNITY FOR AMERICAN ENTERPRISE.

Commercial Agent M. M. Price, of Jerez de la Frontera, Spain, reports that he is in receipt of so many letters from manufacturers and exporters of the United States, asking for the names of wholesale dealers and manufacturers in that city, that he has prepared a circular letter containing information thus requested, which he is sending to all American inquirers. Jerez has 70,000 people, and is the center of the sherry wine trade. It has no street cars, machine shops, wholesale stores, nor factories for the manufacture of wagons or harness. The consul says that a rubber-tired carriage, refrigerator, office desk, or revolving chair can not be bought in Jerez. Everything comes

from Sevilla, Barcelona, Madrid, and other neighboring places. Cream and fresh butter are unknown. There are no wholesale stores for the sale of hardware, tools, machinery, or agricultural implements. There are no shoe or hat stores. The consul says he does not know of any reliable dealer in Jerez who would be willing either to buy or take goods for sale on commission. The market must be invaded by an aggressive force. The consul says:

I believe that a universal store on the American plan would flourish here and override all competition. It ought to be a place where a purchaser could buy anything from a paper of pins to a thrashing machine. The necessity for establishing a house here is because no merchant will buy American goods unknown to them, nor will they take them for sale on commission. Our extensive and numerous fabrics and products must be exhibited and tried by these people before they will buy. Let some active and aggressive drummer go out and put up a windmill which will pump more water in an hour than a peasant and a mule can pump in ten hours, and that moment the mill is sold. The peasant here loves his ease and cigarette, and he would delight to lie in the shade and see a windmill do the work. In this country where there are eight months of hot weather every house would have a refrigerator if they could only see them and know what a necessity they are, but the majority of the people, rich and poor, have never seen one. Unless they were exhibited and tried they would not buy.

Potatoes are one of the principal crops here, but you can't buy a plow, planter, or digger. If one hundred manufacturers and wholesale merchants would pay $20 per month each, they could establish a sales room that would kill all competitors and open the eyes of these people. This is simply a business venture, with some promises of success, to invade with American trade a country which has never yet been exploited and, on account of the conservative methods of the people, can not be worked in any other way. The persons sending goods would pay in proportion to the kind and quantity of the articles sent. The agent here would pay freight and duties.

No one ought to send more goods than just enough to try the experiment. The monthly contribution from each shipper ought to be enough to pay clerks and drummers, rent, heat, gas, electric light, and the necessary fittings for the largest, finest, and most attractive bazaar in this country, and which would draw to its exhibit the people from other cities.

THE ALMOND TRUST.

Consul Birch, of Malaga, Spain, reports that a syndicate which will probably control the almond market has been formed by the seven principal Malaga exporters. "Compañia Almondrera," the corporate name of the "trust," is a limited liability company and will operate under a Spanish deed, just signed. The shares are 200 in number and are divided among the following mercantile houses: Bevan & Co., Garret & Co., Rein & Co., T. Casado S. en C., Federico Gross & Co., Cumming & Vandulken, and Fermin Alarcon en Liq.

The syndicate will have to do only with the purchase of the almonds from the growing districts and will not intervene with respect to the ultimate sales to American and European buyers. Each local exporting house will retain its identity, and business will be conducted along

lines followed in past seasons. The purpose of the trust, its organizers frankly admit, is to reduce first-cost prices and to eradicate certain alleged abuses heretofore practiced by local speculators and brokers.

Roberto F. Bevan and Thomas K. Geary, composing the firm of Bevan & Co., are to be the salaried managers of the company. They will buy the almonds, either direct from the growers or through brokers, and store them in their warehouses. These will then be subject to the demands of the members of the syndicate, to whom the almonds will be sold at a price contingent upon the exigencies of the situation.

Prices of almonds, cost and freight, New York, for the season beginning next month will not be materially affected by the new arrangement, say the managers, though the selling price of the different local houses is likely to be more uniform than in other years. The Spanish almonds of commerce are the "Jordan" and "Valencia" brands. The ordinary crop of the former is about 70,000 boxes, while the yearly yield of "Valencias" usually numbers more than double that figure. Malaga is the exporting center, and, as no competitors are in sight, it is likely that the "Compañía Almendrera" will handle the entire business. The agreement is for five years and the capital listed at one million pesetas ($140,000 United States gold). The only other officer besides the managers is the secretary, Fermin Alarcon.

AUSTRIA-HUNGARY.

CHANCE FOR AMERICAN PRODUCTS.

Consul Twells, of Carlsbad, in the following communication invites attention of manufacturers to an opportunity for introducing American products:

I am receiving frequently price lists, trade magazines, and sometimes valuable illustrated price books, chiefly in the machinery, tool, textile, agriculture, sanitary, steel working, automobile, woodworking, etc., lines, from firms in the United States, and should like manufacturers interested to know that in many of the above-mentioned manufacturing lines a trade could perhaps be established in this country, but in order to transact business here it will be necessary to follow the methods adopted by other foreign and national firms introducing their products, viz, to send competent and experienced men over, instructing them to appoint agents who should exhibit their productions in national warehouses and similar places; or, better, perhaps, open branch houses, as has been done with great success by a number of English firms. The mere sending over to this country of a few printed slips and of booklets, as is done at present, will not produce the desired results.

Attention is invited to what, I believe, may be a good opportunity for introducing American goods in my district. In 1906 an exhibition will be held at Reichenberg, a town in Bohemia of about 35,000 inhabitants. This is an important town in Austria for the cotton and woolen trades. Close to it are the principal glass, weaving, textile, and linen districts of Austria, and about 100 miles to the west commence the large

districts of coal mines, china, musical goods, etc., which belong to the Carlsbad Commercial Agency. Reichenberg is a town which enjoys much popularity all over Austria for political and commercial reasons, and the exhibition at that place will most probably be a perfect success. The exhibition will doubtless afford American manufacturers a rare opportunity to introduce their goods into Austria, and I would suggest that American manufacturers make use of this occasion and exhibit such goods at Reichenberg as they wish to introduce here.

THE WOOL MARKET.

Consul Chester, of Budapest, sends the following regarding the recent sales at auction of wool:

According to the reports of the firm of M. Heller & Co., published by the semiofficial organ of the Hungarian ministry of commerce, the customary purchasing public appeared at this year's wool auctions. Most of them, as usual, were Austrian textile manufacturers. On account of last year's poor crops they were not able to order more than the absolutely necessary supply for this season. Hence they had to pay higher prices based on those of foreign countries. On the first day of the auction 4,000 out of 5,500 sacks found a buyer. Wool scoured on the back and unwashed brought prices from 5 to 7½ per cent higher than last July. On the second day only unwashed wools were sold, while the other kinds were in demand, and 3,400 out of 7,500 sacks were sold.

According to another report, made by Louis Altschul, 10,000 sacks have been thus far sold at auction and 7,000 sacks from various city storehouses. On the third day of the auction it was seen that the demand of the Hungarian woolen-cloth manufacturers this year was very weak. Wool of the second shearing found no sale, and coarse wool was also little demanded.

Wool of the first shearing sold for 330 to 352 crowns ($67 to $71.66), finest; second quality prices, per 100 kilos (220.46 pounds), 280 to 324 crowns ($56.84 to $65.77).

FURNITURE EXPOSITION.

Consul Urbain J. Ledoux, of Prague, reports that the exposition committee of the Association of Cabinetmakers of Prague and suburbs invites the cooperation of foreign exhibitors for their exposition of furniture and kindred manufactures to be held at the Industrial Palace from August 20 to September 30. Under the supervision of the Technological Museum of Prague a special international technical department is to be established comprising motors, woodworking machinery of all kinds, cabinetmakers' and joiners' tools and appliances, metal fittings and decorations, furniture coverings of cloth and leather, varnished and half-finished materials used by joiners and cabinetmakers. Patents and new inventions and processes for these trades will receive particular attention.

Mr. Arthur Gobiet, of Prague-Karolinenthal, Bohemia, has been appointed agent of the exposition and is prepared to represent foreign exhibitors and to furnish all desired information. The exhibition is held under the patronage of the Chamber of Commerce of Prague.

BELGIUM.

THE LUMBER TRADE.

Consul McNally says that recent statistics indicate a continued increase in the importation of woods into Belgium, while export figures show a decrease. In 1903 the importations exceeded 1902 by about $1,110,329, while at present the imports are $27,395,771, without including the importation of bark and wood pulp. This increase is chiefly attributed to the demand for its use in the mines.

The exports of wood fell from $9,770,525 to $2,726,704. The inland Belgian production is estimated at about $2,895,000 and is considered of first importance among the industries of Belgium. For the past fifteen years the consumption of wood in Belgium has been increasing at the rate of about $965,000 yearly. The principal exporter of wood into Belgium is Sweden and Norway. Russia is coming to the front rapidly. The importations from Scandinavia decreased by $1,073,852 in 1903, while those from Russia increased by $1,760,932. It is thought that in a few years Russia will be in the lead. The imports from the Kongo have increased from $7,913 in 1902 to $22,002 in 1903. These are exclusively cabinet woods other than oak and walnut. Belgian woods go mostly to England and the Netherlands. The Kongo takes about $24,318.

THE MOST DENSELY CROWDED COUNTRY.

Consul McNally further reports that the official statistics relative to the population of Belgium in 1904 have just been issued and indicate that Belgium still retains the distinction of being the most densely populated country in Europe. The population is placed at 7,074,910, of which number 3,514,491 were males, and 3,560,419 females, the females exceeding the males by 45,828. The population of the nine Provinces in Belgium is as follows: Antwerp, 888,980; Brabant (including Brussels), 1,366,389; West Flanders, 845,732; East Flanders, 1,078,507; Hainaut, 1,192,967; Liege, 863,254; Limburg, 255,359; Luxemburg, 225,963; Namur, 357,759.

The population of the cities is as follows: Antwerp, 291,949; Brussels, 194,196; Liege, 168,532; Ghent, 162,482; Schaerbeek, 69,710; Ixelles, 68,166; Molenbeek, 63,678; St. Gilles, 59,092; Mechlen, 58,101; Anderlecht, 55,374; Bruges, 53,728; Verviers, 49,158; Louvain, 42,194; Ostend, 41,181; St. Josseten-Noode, 33,267; Namur, 31,940; Laeken, 31,121; Mens, 27,072; Charleroi, 26,528; Etterbeek, 23,992; Uccle, 20,702; Forest, 14,774.

The following are the five smallest communes in Belgium: Niverlee (Province of Namur), 98; Hogne (Namur), 94; Herten (Libburg), 88; Freloux (Liege), 86; Zoetenaye (West Flanders), 28.

A PROMINENT German export journal states that the organization of a Russian chamber of commerce in London is planned by Russian exporters and English firms engaged in trade with Russia. This move is believed to have a tendency to establish more friendly relations between the two countries.

NORWAY.

FAVORABLE OUTLOOK FOR CROPS.

Consul-General Bordewich, of Christiania, furnishes a report on Norway's crops and the importation of farming products into that country. In view of the secession of Norway from the union that has so long existed with Sweden the report will be especially interesting. The consul-general says:

During the five-year period, 1900–1904, inclusive, Norway had only two fairly satisfactory crop returns. The years 1900, 1902, and 1904 were failures to such an extent that the loss to the country for the three years has been estimated at no less than $27,000,000. The present season gives promise of a much needed change for the better. An early spring, high temperature, and frequent rainfall, which is essential to the generally light and sandy soil, have been the main factors in bringing about these favorable conditions. The hay crop is already secured in many tracts, and other crops will soon become ready for the reaper.

The average annual yield of the more important farm products in Norway are estimated as follows, stated in hectoliters: Wheat, 118,000; rye, 315,000; barley, 1,188,500; oats, 3,475,000; potatoes, 8,000,000; peas, 63,000; mixed grain, 264,400; hay (tons), 2,567,000. There is reason to believe that this year's crops will reach these figures. The aggregate value of the above-mentioned crops is estimated at $52,000,000.

The annual import of grain, flour, and feedstuffs exceeds $12,000,000, even in the most propitious seasons. Pork, beef, oleomargarine, and vegetable oils for margarine factories are also largely imported, and the larger portion of these importations are of American origin. American wheat and flour would find a better market in this country if the import duty imposed on them could be reduced to correspond with the duty on other breadstuffs.

The duty charged on breadstuffs is as follows, the rate being on 100 kilograms: Barley, 5.9 cents; barley meal, 13.4 cents; flour, 53.6 cents; oatmeal, 16 cents; rye meal, 12.4 cents; wheat, 16 cents. There is no duty on rye or oats.

American exporters of cereals and flour are otherwise well represented in this country, several of the largest flour mills having well-established connections.

Favorable weather conditions have improved the prospects for increased yield of vegetable and root crops. Small fruits have been plenty and cheap, and other fruits, such as apples, pears, and plums, promise well. Norwegian small fruit and berries are of excellent quality, but the apples are much inferior to the better grades of American apples, of which the annual importations are quite large. The variety best known is the Baldwin. Some of these apples were last season imported from Ontario, Canada. American exporters of green, as well as of dried and canned fruits, should be able to increase their sales in this country. The shipping facilities are good from New York to Christiania, and the time is only nine or ten days.

Of importers of fruits I will name: Fr. Meyer, Kongens gade 8; Harald Ohlsen & Co., Skippergaden 15–17; Bisgaard & Heen, Skippergaden 28; Beckman Bros., Torvgaden 36; Kachelmacher & Bøhmer, Skippergaden 21; all of whom are at Christiania.

The import duty on green apples and pears is 3½ cents per kilogram. On account of this high rate of duty, only the best grades of American fruit will be able to compete successfully with the domestic article and importations from other countries.

Green apples are best packed in boxes. Boxes containing 25 kilograms and measuring 60 centimeters in length, 40 centimeters in width, and 27 centimeters in height, outside measure, are to be recommended. Apples imported from Spain and Italy generally arrive packed in boxes. At a recent meeting of Norwegian horticulturists, boxes of the above given dimensions were recommended as the most suitable for green apples. The American method for packing dried and canned fruits can not be improved upon.

RUSSIA.

DECLINE IN FOREIGN COMMERCE.

The Bureau of Statistics, Department of Commerce and Labor, has prepared a statement from Russian official sources showing the value of imports into and exports from Russia across the European frontier for the four months ending April 30, 1895, compared with the corresponding months of 1903 and 1904. The figures follow:

Four months ending April—	Imports.	Exports.
1903	$90,226,000	$132,388,000
1904	104,834,000	126,541,000
1905	76,053,000	135,598,000

The decreases of imports were heaviest in raw and semimanufactured commodities, as will be seen from the following table:

Articles.	1904.	1905.	Per cent decrease.
Cotton, raw	$25,423,000	$11,539,000	54.6
Wool	5,105,000	3,818,000	25.2
Silk	3,005,000	1,380,000	54.1
Metals, except copper	2,919,000	2,620,000	10.2
Caoutchouc and gutta-percha	4,410,000	2,280,000	48.2
Chemicals	1,777,000	1,428,000	19.7
Colors and dyes	1,861,000	1,284,000	31.0

The decrease in the value of imports is heaviest under the head of raw cotton, though this shrinkage in value is due, to some extent, to the fall in price.

DECLINE IN IMPORTS OF MANUFACTURES.

Parallel with decreased imports of the principal manufacturers' materials go decreased imports of machinery, tools, cars and carriages,

paper and manufactures of, manufactures of silk, wool, and cotton, indicating a lessened willingness or ability of the Russian consumer to purchase foreign products. The annexed table shows the decreases in the principal items:

Articles.	1904.	1905.
Machinery and apparatus	$11,022,000	$9,041,000
Of which agricultural machinery	4,420,000	4,105,000
Scythes, sickles, shovels	474,000	282,000
Cars and carriages	495,000	303,000
Paper and manufactures of	2,231,000	1,832,000
Manufactures of silk	713,000	376,000
Manufactures of wool	1,444,000	1,059,000
Manufactures of cotton	1,108,000	695,000

COTTON AND COTTON GOODS.

Owing to the considerable shrinkage in the quantity and value of raw cotton imported, the total imports credited to the United States and Egypt during the four months show even heavier decreases. Thus, imports of cotton from the United States has fallen about 58 per cent in value, from $15,346,000 in 1904 to $6,481,000 in 1905, and 35 per cent in quantity, from 107.6 millions of pounds to 69.9 millions of pounds; while the total imports credited to this country have decreased about 46 per cent, from $19,399,000 in 1904 to $10,522,000 in 1905. The imports from Egypt, almost all cotton, show an even heavier relative decrease of nearly 55 per cent, from $4,141,000 to $1,867,000.

The decrease in exports of cotton goods, particularly over the Asiatic frontier, which are fostered by drawbacks paid by the Government, have fallen almost 20 per cent during the first four months of this year.

MOVEMENT IN BREADSTUFFS.

The exports of merchandise during the first four months of 1905, as stated above, show an increase of 7.2 per cent over the exports during the same period in 1904. This increase is due exclusively to larger foreign shipments of breadstuffs, particularly wheat and oats, the exports under the head of raw and semimanufactured materials, animals, and manufactures showing decreases. The value of the wheat exports increased from $30,961,000 during the first four months in 1904 to $36,286,000 for the same period in 1905; those of oats from $3,516,000 to $13,717,000 in 1905, while the exports of rye, barley, and especially Indian corn, show decreases during the period under review as compared with the same period of the year 1904.

The total value of breadstuffs exported during the four months of the current year is $73,048,000, nearly $10,000,000 in excess of the value of the exports during the first four months of the year 1904.

The exports of butter during the period under consideration show a decrease from $2,923,000 during 1904 to $2,519,000 in 1905.

Under the head of raw materials the largest increases in exports are shown by flax, from $10,985,000 to $18,030,000; oil cakes, from $3,026,000 to $3,538,000; and sugar, from $2,820,000 to $4,132,000.

The largest decrease under the head of semimanufactures is shown by mineral oils, including petroleum, the exports of which during the first four months of the present year were over 45 per cent less than the exports during the corresponding period of the previous year.

TRADE WITH THE NATIONS.

Russia's trade in 1904 was considerably influenced by the war. Still the figures are far from being as unfavorable, compared with other years, as might have been expected. Its total trade, imports and exports, by way of the European border in 1904 were $792,379,000 against $799,434,500 in 1903, and $696,795,000 in 1902.

The imports were in 1904 $300,554,000, in 1903 $310,339,000. The imports consisted largely of agricultural machinery of all kinds and locomotives. Hard coal, coke, and minerals, such as copper, iron, and steel, particularly manufactured products of these, were imported in fairly large quantities.

The following table tells the story of the Empire's imports relatively, i. e., for every 225,019 rubles' worth taken from Germany, Great Britain sent 102,453. The figures used stand for the number of thousands of rubles recorded for each country, but as the purpose of this article is to point out the relative positions of the various countries, the figures have been converted into their United States equivalents:

	1904.	1903.	1902.
Germany	225,019	237,306	204,472
Great Britain	102,453	113,403	99,080
United States	62,452	62,477	38,438
France	26,081	27,644	26,732
Finland	24,504	22,613	25,582
Austria-Hungary	21,396	26,964	23,910
Holland	11,201	10,566	11,372
Belgium	6,759	5,696	6,750
Sweden	5,170	4,715	3,497

Coal saved a little more than 4,000,000 for England; but this was more than offset by the drop in cotton from 18,100,000 to 13,900,000.

EXPORTS.

The exports by way of the European border amounted to 955,000,000 rubles in 1904 against 949,700,000 in 1903. Most of these, in fact fully one-half, if not more of them, were put down to grain, hay, and food products. If wood, petroleum, and other raw materials of commerce are included, the entire amount will be nearly covered. The countries participating in these exports and their relative positions are indicated by the following tables, the numbers in this case, as in the previous table, standing for thousands of rubles. In this, as in the other table, as the purpose is to point out the relative positions, conversions into United States equivalents have not been made.

	1904.	1903.	1902.
Germany	234,066	232,444	203,129
Great Britain	230,811	218,023	189,047
Holland	98,483	100,985	103,099
France	61,877	75,913	55,143
Italy	52,999	56,715	48,899
Finland	46,323	46,653	38,030
Belgium	44,086	43,437	28,524
Austria-Hungary	40,372	36,897	35,615
Denmark	30,039	27,387	27,849
Norway	8,319	10,986	6,203
Sweden	11,175	10,330	10,760
United States	4,346	5,352	4,374

LIMITATIONS UPON FOREIGN BANKS.

The special correspondent of the London (England) Standard at Odessa, writes his paper that, under an old established statute, no foreign banks are allowed to have branches in Russia. The exceptions to this prohibition are the Credit Lyonnais and La Banque du Nord. The latter, under the name of "Se-Verni Bank," is generally regarded as a Russian financial establishment. The correspondent says in part:

I have good reasons for believing that under the approaching economic regeneration of Russia, this prohibition against foreign banks will be removed, and herein lies the point of interest to the financial, commercial, and industrial interests. After peace has been concluded between Russia and Japan, and when commerce between western Europe and the Far East have returned to normal conditions, it will not be long before Japan commences to display the same genius, energy, and unflagging enterprise in the peaceful avocations of trade and industry as she has shown in the art and science of war. With such a people as the Japanese the conversion of guns and swords into plowshares and handicraft implements will be but a brief process. Japan knows that England's predominant position in the polity of west European nations is based upon Britain's world-wide trade and commerce, and it is in this direction that Japan will seek to augment her national wealth. Taking this proposition as one of the moral certainties which the near future will demonstrate, it may also be taken for granted that the great bulk of the industrial and other products now exported from western Europe and the United States to the Far East will, by degrees, be largely and ultimately, perhaps, wholly displaced by Japanese productions.

Japan will eventually be enabled practically to monopolize the Asiatic markets by the natural emulative genius of her people, by their assiduity, perseverance, sobriety, thrift, and exceptionally cheap labor, skilled and unskilled. Western Europe will then be compelled to seek "fresh fields and pastures new" for its industrial products and the expansion of its trade and commerce in the vast Russian Empire. It may be contended that the Far Eastern war will leave Russia practically bankrupt; but the indisputable fact remains that Russia possesses enormous natural wealth, as yet scarcely touched, exploited, or developed. Our Teutonic neighbors are patiently awaiting the time and opportunity for entering upon a leading rôle in the exploitation and development of Russia's superabundant but still dormant natural wealth.

Hydraulic Mining.

Consul-General Holloway reports that tests of a new hydraulic mining machine are being made in one of the collieries of the Dominion Coal Company. The machine contains a row of telescopic pistons at one end and a small pump at the other. After the coal is undercut the machine is operated parallel with and near the roof. The action of the pump forces water along the tube, where it comes in contact with the pistons. There it penetrates the coal seam in a downward direction, and as pressure increases the coal begins to fall to the floor. The use of the machine does away with explosives, and in addition to being economical in operation is said to produce the coal with the least possible breakage.

GREECE.

REGULATION OF THE CURRANT TRADE.

Secretary of Legation Wilson, writing from Athens, and Vice-Consul Lontos, writing from Patras, call attention not only to the currant trade of Greece, but to legislative and other efforts to effectively regulate it. They say that currants are the country's principal product. Affected by the vicissitudes consequent upon careless cultivation, market changes, and tariff regulations, the currant trade was in danger of annihilation. Laws passed to regulate the trade have not proved as efficient and satisfactory as their projectors promised. One of these, called the "paracratasis," or retention law, took 20 per cent of the currant crop for wine, thus reducing the amount available for export. This proving inadequate, an advance to a point beyond the 20 per cent limit was proposed.

This, however, the British Government, with which a trade treaty had been entered, opposed. A way out was sought by paying the Currant Bank, a financial institution organized to aid the Greek currant farmers, in kind, 35 per cent instead of 20 per cent of the currant crop, the bank assuming to pay the State about $800,000 annually, for which it was to be reimbursed by export duties. All these schemes have failed.

The general manager of the Bank of Athens, representing foreign capitalists, has submitted a plan to the Government providing for a limited liability company that will regulate the output and sale of currants. It is to have $4,000,000 capital, of which the Currant Bank is to furnish one-fourth and the Bank of Athens the remainder.

The practice of retaining 20 per cent shall go on, so, too, the export duty of 15 per cent, payable in currants. The currant bank is to be superseded by the company in regard to the currants withdrawn from the market and in collecting duties, the company paying $800,000 to the State for the privileges connected with its work. In return for all this the company binds itself to buy, at certain prices, from certain provinces, all the currants produced. The prices fixed are $22.19 and $25.09 per 1,044 pounds. This price is to be paid for each quality from July 1 to September 30 of each year for fruit of the year previous. The new currant year not to begin before August 10. In case of exchange for the drachma going below 1.20 per franc the company may make proportionate reductions.

Both the minister's and the consuls' reports then go on to point out the regulations in detail. They are on file in the Bureau of Manufactures, where they may be consulted by interested parties. Mr. Wilson thinks "the chances at present seem favorable for the passing of the proposed convention, with some modifications. Meanwhile," he says, "there is considerable excitement in the currant-growing districts of the country, and pressure is being exercised to urge Parliament to pass some measure which will bring some relief to the currant trade."

ESTIMATES OF THE CROP.

Consul Horton, of Athens, reports that a request made by the Currant Bank of Greece upon its agents for estimates of the probable

extent of the currant crop for the present year elicited reports from all the provinces and that the aggregate of these estimates places this year's crop at 355,845,000 liters (126,257 gallons) against 312,000,000 liters (109,824 gallons) for the preceding year. If no adverse conditions occur through rain or disease in August, when the currants will be ready for shipping, the output will exceed that of last year by about 44,000,000 liters, equivalent to about 17,000 gallons.

BIDS FOR SUPPLYING OIL.

The secretary of legation at Athens, Mr. Charles S. Wilson, reports that the Greek minister of finance, in an official paper of June 28, issued a notice under date of June 14 calling for bids for supplying the monopoly with from 45 to 50 thousand cases of petroleum. As was the case last year this notice contains prescriptions with regard to American, Roumanian, and Russian petroleum which are similar in terms, except that greater density is permissible in the case of oil from Roumania and Russia than from America. Bids are to be submitted by August 23. The minister says he understands that the exploitation of petroleum lands in the island of Zante has been abandoned by the English company at work there, as no traces of oil were found.

DIRECT STEAMSHIP SERVICE.

The State Department has a dispatch from the American legation at Athens communicating the fact that a Greek company has been formed with a capital of £80,000, for the purpose of instituting a direct steamship service between the Piræus and the United States. A representative of the company has already gone to England to arrange for the purchase of the first steamer, which will be of about 8,000 tons. It is planned to purchase two other vessels of the same size in January next. The charter of the company, known as "The Greek Interocean Company," will be presented shortly to the Greek ministry of interior for approval.

ROUMANIA.

AMERICAN AGENTS MAKING INQUIRIES.

The Engineering Times, London, of July 27, forwarded by Consul Halstead, of Birmingham, publishes an article, based on reports from Vice-Consul Dundas, of Galatz, Roumania, in which it says:

Vice-Consul Dundas says no commercial travelers for British firms have called at the consulate-general at Galatz during the past two years in order to make inquiries. There is no American consulate at Galatz, but this has not prevented Americans traveling for American firms from coming to the British consulate-general to make inquiries and ask advice. Even German and Austro-Hungarian firms send their agents to make inquiries at this consulate-general.

He adds that much depends on the manner and attitude of a commercial traveler, such as the manner in which he enters a firm's busi-

ness premises, whether he is smoking a pipe or a cigar, the little niceties of etiquette, specially foreign, such as raising his hat when he addresses some one of the firm and of removing his hat altogether when showing his goods to the head of a shop. Foreigners notice all these (to Englishmen) vexatious, unnecessary little points, but their careful observance goes a long way toward creating a good impression.

Roumanians complain that British firms keep them waiting for weeks and that the goods in some instances prove to be faulty and unsalable in the United Kingdom.

"German and Austro-Hungarian wares are good," says the Roumanian, "but can we not have British goods? Although more expensive, they are best and last longest."

But British firms will not do business except in their own way and unless they can reap the desired profit.

TURKEY.

EFFORT TO RECOVER TRADE.

Consul-General Dickinson, writing from Constantinople, reports that an agreement has been concluded between the Constantinople Quay Company and the ministry of public works under which new custom-houses are to be built at Galata and Stamboul. The company is given the option of building warehouses at the former place. The consul-general says:

The custom-houses to be built on the Stamboul side of the quay are to cover an area of 43,500 square feet; those on the Galata side 22,500 feet. The warehouses for goods in bond are to be commenced at once on the Stamboul quays, are to be several stories high, and to cover an area of 15,000 square feet. The company has opened for use in the meantime a large store depot on the Galata quay. Goods intended to be warehoused in transit or in bond should be manifested "Marchandises pour entrepôts."

This is a genuine attempt to recover the transit trade of this city and to make it again the distributing center for the whole Empire.

A scale of storage charges has not been fixed. It is intended to charge for the first month or part of a month a sum sufficient to cover handling, entry, and reshipment, and for each subsequent month a bare rental, which will enable merchants to treat their merchandise, to hold for a market, or to obtain a collateral loan, as can be done in all other large cities.

THE EUPHRATES COLLEGE.

Consul Norton, of Harput, furnishes a brief report of the closing exercises of the Euphrates College, which occurred on June 29 and which were attended by the governor-general, the governor of Harput, and various other Moslem officials and notables. Twelve young men and eleven young women were graduated. The consul says:

This institution, established by American generosity and controlled by an American board of trustees, is accomplishing a most valuable

work here, which thoroughly commands the respect and esteem of the public and of the official world. A shop for manual training, well equipped with American machinery, has been established during the past year. The theological school (closed at the time of the massacre in 1895) has been reorganized and is in a flourishing condition, quartered in a new and well-appointed building. The total attendance in the college and schools of all grades attached to it at Harput was over 800 during the past year. Entrance admissions to the college promise an unusually large increase in the attendance of collegiate students during the coming year. The large group of buildings housing the various departments of the college and its preparatory departments form the most important feature in the topography of the city of Harput. It is difficult to estimate at its full value the far-reaching influence of this well-organized institution in molding the future of this entire region. It is certainly the most potent single factor at work.

EGYPT.

THE COMPETING COUNTRIES.

According to a leading French paper, Egypt's imports in 1904 were worth £20,559,588 (Egyptian pound = $4.943), against £16,753,190 in 1903. Among these, £19,888,825 were for various articles in 1904, £16,146,875 in 1903, and £670,763 and £606,315, respectively, for tobacco. The exports amounted to £20,811,040 in 1904 and £19,539,524 in 1903. Of these, £494,964 in 1904 and £423,332 in 1903 were for cigarettes, the rest for cotton and various products. The countries sharing in the trade and their relative standing are indicated by the following table:

Country.	1904.	1903.	1904.	1903.
Belgium	£748,085	£524,877	£201,353	£153,882
Germany	1,020,269	742,924	1,803,523	1,543,108
Great Britain	6,990,689	5,919,404	10,979,760	10,163,062
France	1,906,992	1,647,506	1,615,231	1,685,316
Italy	1,168,120	893,122	960,627	717,030
Austria-Hungary	1,458,524	1,213,898	938,875	912,200
Russia	750,044	605,901	1,340,030	1,247,062
Turkey	2,814,059	2,347,564	399,714	328,010

Rubber and Tea in the Orient.

Mr. Walter J. Ballard, of Schenectady, N. Y., writes that Ceylon and the Straits Settlements have between them 50 rubber producing companies. Twenty-six of these, according to a statement issued by Messrs. Gow, Wilson, and Stanton, of London, published by the British Trade Journal, are tea companies having an interest in rubber cultivation. The purely rubber growing companies have not yet paid any dividend, except one case of 7 per cent. The companies growing tea as well as rubber have, for the most part, paid from 3 to 7 per cent. though in one instance 15 and in another 30 per cent was paid. Data is not given of the profits on tea growing and rubber growing separately. The rubber companies have planted acreages of from 138 to 1,600, and the joint tea and rubber companies from 374 to 12,000 acres. American use of rubber is so large and growing so fast that this item is of special interest on this side of the Atlantic.

OPPORTUNITIES IN EUROPE.

LARGE EXPENDITURES FOR PUBLIC AND OTHER IMPROVEMENTS.

Consul-General Guenther has collected from official and other reliable sources information regarding proposed expenditures for public and other improvements in Europe which will interest parties in this country engaged in the several industries concerned. From the consul-general's letter the following items are taken:

The following municipalities of Germany have been authorized to issue bonds for projected public improvements, among which are water and sewerage works, electric plants for power and lighting, electric tramways, gas works, public baths and buildings, etc., as the case may be. Parties desiring contracts or interested in furnishing supplies should apply direct to the mayor (buergermeister) of the town or city mentioned.

Erfurt	$238,000
Kissingen	166,600
Loerrach, Baden	266,000
Halle	1,166,000
Worms (Hessen)	714,000
Ruedesheim-on-the-Rhine	54,000
Dresden	9,520,000
Hirschberg (Schlesien)	95,000
Remscheid	497,000
Balingen, I. W	75,000
Breslau	208,300

The city of Crefeld is to be connected by tramway lines with two manufacturing towns (Suechteln and Viersen).

The celebrated bathing resort Kreuznach will have electric works built and an electric railroad to Muenster a' Stein.

Austria.—The municipality of Karlstadt, Croatia invites international competition for constructing water and sewerage works for that city.

The municipality of Agram, Croatia projects the construction of water-gas works and an electric tramway line.

The city of Trieste has granted $182,000 for extending the water mains.

The gas works at Teplitz, Bohemia are to be enlarged and improved.

Belgium.—The municipality of Braine-le-Comte will receive to October 1 bids for constructing waterworks.

Three electric elevators are to be constructed at the harbor of Ghent.

The Société Nationale des Chemins de Fer Vicinaux, of Brussels, invites bids for building a railroad from Diest to Coursel.

Bulgaria.—The Bulgarian ministry of communications at Sofia advertises for bids for constructing a railroad line from Tirnovo to the Turkish border.

Great Britain.—The town of Heywood has voted $186,000 for changing the tramway to electric traction and the building of a power station.

The city of Limerick, Ireland, is to have electric tramways.

The docks at Liverpool are to be extended, at an estimated expense of $21,135,000.

The town council of Goole has decided on having electric works built for lighting and power.

Holland.—The ministry for the colonies at The Hague is frequently open for bids for furnishing railroad supplies, ironwork for bridges, rolling stock for railways, etc.

The Directie der Electrische Maatschappy in Elst contemplates the erection of an electric station.

The municipality of Volendam will have a steam railroad constructed between that town and Kwadyk.

The following cooperative societies for the purchase of agricultural machines, fertilizers, and supplies generally, have recently been organized:

Cooperatiieve Vereenigung tot Ankop van Landbouwbenoodigdheden in Balk, geweente Gaasterland (provinz Firesland):

Landbouwvereenigung in Zoutande (provinz Seeland):

Onderlinge Landbouwvereenigung Zuid Barge, gemeente Emmen.

The Directie der Tram-en Bargedienst at Utrecht has obtained a permit to construct a railroad from that city to Vreeswijk.

The municipality of Oudewater plans the building of tramway lines.

The Drentsche Stoomtramweg Company of Assen plans the construction of tramway lines.

The municipality of Renkum will have waterworks built at Lisse. Apply to Centraal Bureau voor Technische Adviezen in Rotterdam.

The Gemeentebestur of Groningen decided upon the building of an iron bridge in that city.

The Handelsvereenigung Amsterdam in Amsterdam projects the building of a sugar factory at Kediri, Island of Java.

Italy.—The Centrale Elettrica Ligure-Toscana in Livorno projects the construction of electrical works.

The municipality of Naples has prepared a draft of regulations for utilizing the waterpower of the Volturno for electric energy and for constructing a power plant.

A new electric tramway line is to be built from the Porta San Giovami to the Piazza Termini in the city of Rome.

A new railroad company, the Societa per la Tramvia Lucca-Pescia-Monsummano, has been organized at Lucca and Leghorn for the construction and operation of steam or electric lines, which will connect the towns named in the title of the corporation, and others, while the company declares its intention to establish public automobile service for towns tributary to and not directly connecting on its main lines. The capital is 1,200,000 lire (about $2,400,000), and the promoting companies include half a dozen of the banks, together with many private capitalists in the vicinity of Leghorn.

A "glucose trust," quite on the American plan, has been organized at Turin, Italy, under the title Societa Fecolerie Italiane Reunite, with a capitalization of 1,250,000 lire (about $2,500,000). It has taken in a number of separated plants, and is being financed by some important banks and private capitalists, all of whom are heavy stockholders.

The Milan Chamber of Commerce has officially indorsed the plan to hold an international congress on business education in connection with the Milan Exposition of 1906.

The Underwood Typewriter Company will make an elaborate exhibit at the Milan Exposition of 1906.

A number of American firms have asked for space at the Milan Exposition of 1906, and there are indications of considerable interest on the part of our exporters.

Portugal.—A railroad is to be built between Noncorvo and Carvicaes.

The Companhia Nacional de Caminhos de Ferro will have constructed several iron bridges and viaducts.

Roumania.—The contract for lighting by electricity the city of Turnu-Severin will be awarded by its municipality next September 10.

The Credit Agricole in Bucharest will award a contract for its office building, estimated cost $66,000.

Servia.—The estimated cost for the new parliament building is $415,000.

Iron bridges over the Arnauta and Jassenica rivers are to be contracted for.

Spain.—The municipality of Madrid purposes the issue of $10,000,000 bonds to be expended for public works.

The Dirección General de Obras Públicas in Madrid has granted a concession to the Sociedad La Plata for utilizing the Bornoba River in Hiendelaencina in the province of Guadalajara for the creation of electric energy to work the mines of that district.

The Junta de Obras del Puerto in Almeria projects the construction of a dredger for said port.

Don Antonio Conejero has applied to the ministry of public works for a concession to build a railroad from Baeza to Santuario.

The municipality of La Rambla plans the installation of electric lighting. So does the municipality of Calannas (province Huelva).

Don José Lopez Planas in Oviedo has obtained a permit for constructing an electric tramway between Oviedo and Posada.

The town of Orense is to get a telephone system. The city of Leon will expend $600,000 for water and sewerage works.

Talavera de la Reina (province Toledo) is to have a telephone system.

The town of Mazarron projects the construction of electric works for lighting.

The ministerio de la gobernacion in Madrid has been empowered to spend $58,000 for repairing submarine cables.

A tramway will be built from Valencia to Moncada.

A syndicate has applied for a concession to utilize the water power of the Henares and the Tajuna rivers for creating electric energy to supply light. Address Don Felipe Mora in Armunna (Guadalajara).

Sweden.—The Stora Kopparberg Company, in Donnorfvet, Sweden, intends to erect works for manufacturing steel rails and construction iron. Machinery for this branch of manufacture will be required.

Switzerland.—The Swiss Federal Diet has granted $284,000 for enlarging the railroad station at St. Gall and $1,080,000 for constructing additional workshops at the railway station in Zuerich.

Electric railroads are to be built as follows:

Lugano to Paradiso, Lugano to Gerra, Lugano to Salvatore Railroad Station, Molino Nuovo to connect with St. Gotthard Railroad, Neyringen to Grindelwald, Oerlikon to Schwamendingen, Locarno to Valmara, Locarno to Camedo, Grindelwald to the Sea of Ice.

Turkey.—The Société d'Exploitation du port de Salonique will introduce electric lighting in Saloniki and construct electric tramways in that city.

NORTH AMERICA.

THE DOMINION OF CANADA.

MISCELLANEOUS COMMERCIAL AND INDUSTRIAL ITEMS.

A number of items relating to industrial affairs in Canada are furnished by Consul Holloway, of Halifax, some of which may be found profitable to American manufacturers:

The Grand Trunk Pacific Railway will call for tenders for the construction of the western division of the line. The estimated cost of the work is about $100,000,000.

The town clerk of Indian Head, Northwest Territory, is calling for tenders for complete waterworks and electric-lighting machinery.

The city clerk of Winnipeg, Manitoba, is inviting tenders for supply of valves and hydrants, supply sewer pipe, and two weight scales.

The Huyler Company, of New York City, has purchased property in Toronto, where they will establish an up-to-date building for the sale and manufacture of chocolates, etc.

The American Radiator Company, of Chicago, has recently acquired the foundry plant of the Cockshutt Plow Company at Brantford, Ontario. They will rapidly remodel these works with a view to making lines of "Ideal" steam and water boilers, for which a good demand already exists throughout the Dominion.

The Walter M. Lowney Chocolate Company, Boston, Mass., will erect a factory in Montreal, 100 by 100 feet, six stories high, at the cost of about $63,000.

A lumber mill fitted with Swedish machinery was erected last year at Douglastown, on the Miramichi, and now it is announced that a planing mill to cost $100,000 is to be erected there with Swedish capital to produce the kind of lumber for which Sweden finds a profitable market in England.

A rich coal strike was made recently near Lingan, Nova Scotia, which shows 6 feet of clean coal land, area of about 100 square miles, or 619,520,000 tons of lead.

The Ogden Oil Company, Windsor, Ontario, has been incorporated, with a capital of $50,000, to bore for oil, gas, etc., and to construct pipe line.

The sardine situation in New Brunswick is assuming a serious phase. The hopes that were felt in the early part of the season for a big run of summer fish have not been realized. Only small quantities are being picked up, and for these high prices have to be paid. With the prices of the finished product down to the lowest notch it makes the situation from a packer's standpoint somewhat gloomy. Some of the Eastport factories are talking of shutting down for a few weeks.

The New York Rock Plaster Company will commence the development of a gypsum deposit near Hampton, New Brunswick. It is expected the yearly output will amount to about 50,000 tons.

Prof. S. F. Peckham, chemist and mineralogist, of New York, expresses the opinion that the Maritime Coal Company has facts enough to justify a careful expenditure to test the extent and quality of the anthracite coal vein at Norton to a greater depth. He thinks there is a prospect that they can develop a deposit of considerable extent of semianthracite coal, merchantable quality, and advises sinking a shaft 100 feet and driving a tunnel 200 feet on the vein.

The Swedish engineer employed by the New Brunswick Iron Company, at Lepreaux, states that the ore is equal in quality to the best Swedish ore, and has 63 per cent or more of iron. Six borings have been made, the deepest nearly a thousand feet. The nearest ore is within 15 feet of the surface. The company report that by the tests made they are encouraged to continue.

The Keewatin Flour Mills Company, Ottawa, has contracted with the Macdonald Engineering Company, Chicago, Ill., to erect a large fireproof milling and elevator plant at Keewatin, Ontario, to cost $750,000. Both buildings are to be entirely of steel-concrete construction, and will have a capacity of half a million bushels storage and an output of 5,000 barrels of flour per day. Work will be commenced at once and to be completed early next year.

Ontario Gas and Fuel Company, Hamilton, Ontario, has been incorporated, with a capital of $100,000, to produce natural gas for light, heat, and power purposes. The provisional directors include F. M. Lowry, Pittsburg, Pa.; W. A. Spratt, Hamilton, and W. J. Aikens, Dunnville.

The New Ontario Iron Company, an American corporation, has been licensed to manufacture machinery for mining and metallurgical operations, etc., and to carry on a mining business in Ontario, with a capital of $1,000,000.

The Concrete Steel and Tile Construction Company, an American corporation, has been licensed to carry on an engineering and construction business in Ontario, with a capital of $20,000.

The Toronto Welsbach Light Company, Toronto, has been incorporated with a capital of $50,000 to carry on the business of a light, heat, and power company. The provisional directors include J. G. Lohrman, Elkhart, Ind.; J. R. Adamson and James Eleck, Toronto.

James Austan, Hamilton, Ontario, is about to establish a tack factory in that city, and is desirous of purchasing a number of tack machines.

The South Bay Oil Company, an American corporation, has been licensed to carry on an oil producing and refining business, etc., in Ontario, with a capital of $100,000.

The Hickey Oil Company, an American corporation, has been licensed to manufacture oil, asphaltum, petroleum, etc., in Ontario, with a capital of $1,000,000.

The Canadian banks have been notified that the execution of the plans for banishing silver coins of the United States from circulation in Canada have been postponed. It will require more time than was anticipated to effect the necessary arrangements. It is estimated that from $500,000 to $800,000 in American silver is circulating in Canada.

About $340,000 was paid in bounties on coal oil produced in Canada during the last fiscal year. At the rate of one-half cent per gallon this would represent a net output of some 2,250,000 gallons of crude petroleum. This output of Canadian wells is far short of the total consumption. In addition to the home production, there was imported during the year about 22,000,000 gallons of coal oil, naphtha, gas oil, and the like products of petroleum.

A discovery of rich quartz was reported from Frontenac, Ontario. Favorable reports were also received from the oil regions, extensive developments continuing in Nova Scotia, Ontario, and Alberta. In British Columbia an important event of the month (July) was the purchase of the War Eagle, Centre Star, and St. Eugene mines by a number of Toronto, Montreal, and New York capitalists, the object stated being to effect a consolidation of the railway smelting and mining business in the Kootenays. The price paid was stated to be $825,000.

DOMESTIC AND FOREIGN COMMERCE.

Consul-General Holloway furnishes the following synopsis of the trade of Canada for the year ending June 30 last:

There is about a quarter of a million dollars of increase in the trade of Canada for the year ending June last, which is double that of 1896. There was a falling off during the past year of over $8,000,000 in domestic exports and about $2,000,000 in foreign exports, as well as reduction of about $750,000 in coin and bullion, which was made up in the increased volume of imports for consumption. It is noticed that the exports of domestic manufactures for last year was $1,250,000 in excess of the previous year.

The produce of the mine showed a decrease of about $1,500,000 and agriculture of about $8,000,000.

The total aggregate trade of the Dominion, on the basis of imports for consumption and domestic exports, was $465,228,470, compared with $464,981,972 for 1904, or an increase of about a quarter of a million dollars. A summary of the trade for the past two years is as follows:

Products.	1904.	1905.
Imports for consumption	$251,460,737	$261,911,435
Domestic exports	198,414,439	190,854,946
Foreign exports	12,641,289	10,617,115
Coin and bullion	2,465,557	1,844,811
Total	464,981,972	465,228,307
Duty collected	40,952,810	42,021,386

The details of the trade are as follows:

	1904.	1905.
Imports:		
Dutiable	$148,902,381	$150,914,668
Free	94,684,043	100,688,332
Coin and bullion	7,874,313	10,308,435
Total	251,460,737	261,911,435
Domestic exports:		
The mine	33,626,739	31,932,329
Fisheries	10,759,029	11,114,318
Forest	33,091,922	33,235,683
Animals and their product	63,812,117	63,337,458
Agriculture	37,138,875	29,994,150
Manufactures	19,864,049	21,191,383
Miscellaneous	121,708	49,675
Total	198,414,439	190,854,946

THE DAIRY TRADE.

A summary of the reports from various parts of Ontario and elsewhere show the dairy season of 1905 has been one of the most prosperous on record. The export demand has been unusually active, and shipments from Montreal since the opening of navigation total 875,836 boxes, an excess of 131,249 boxes over the preceding year, a record only once before exceeded. Prices are now 2 cents to 3 cents higher than a year ago, and the aggregate volume of exports for the year should nearly total that of 1903, the banner year, when the exports for the season represented a return to the Canadian dairymen of $21,563,388. Last year prices were as low as 6.2 cents on country boards, but the bottom figure this year has been 8$\frac{3}{8}$, a higher figure than was reached during the entire season of 1904.

Light stocks in England, and an improved demand from there, have been largely responsible for the rise in values, and the same applies to butter. Canadian creamery has found a better market abroad this year than ever before, exports reflecting a substantial increase over any value of the product. Prices are 3 to 4 cents above the level of a year ago, and about the same difference exists between the prices of 1903 and those now prevailing.

This tremendous growth in exports to England, and the increasing favor of the Canadian product there, is responsible for the high prices. The shipping demand has created a scarcity of home supplies.

BOUNTY ON STEEL.

A special dispatch from Montreal to the Halifax Herald, regarding the bounty on steel manufactured in Canada, says:

The news that the government had passed an order in council providing that the bounty on steel manufactured in Canada shall not apply to steel rails has come as a surprise to those interested in the Lake Superior corporation of Sault Ste. Marie and the Dominion Iron and Steel Company at Sydney, both manufacturers of steel rails. Members of the executive of both corporations when shown the

dispatch from Ottawa setting forth the decision of the government on the subject were loath to credit it, and in some quarters doubt was expressed that the order in council could be passed, doing away thus summarily with an act duly passed by the Canadian House of Commons and Senate. The bounty on steel rails, which has been in effect up to this time, amounts to $3 per ton, and as the works at the Soo are manufacturing rails at the rate of 500 tons per day and the works at Sydney at the rate of 350 tons per day, it can readily be seen that the loss per day to the two concerns from this lopping off of the bounty on rails will amount to $2,550. The lopping off of the bounty of $3 per ton, as this order in council does, leaves the Canadian steel rail manufacturers with only $2.10 per ton in addition to $7 per ton.

Mr. Drummond, vice-president of the Lake Superior corporation, had not been informed of the contemplated change in bounties. It was a very serious matter, but not one which could be discussed out of hand. He said the iron and steel manufacturing industries of Canada were none of them beyond the turning point. Success or failure yet was to be realized. Two sessions ago Parliament authorized the payment of a bounty to help the establishment of a structural steel industry in Canada. The customs protection on this material is only 10 per cent, and it was represented that with a little encouragement a stable industry could be built up on Canadian soil. Some time afterwards the Algoma Steel Company, which has begun the manufacture of steel rails at the Soo, claimed that it was entitled to the bounty on the rails it was turning out. The matter was referred to A. B. Aylesworth, K. V., for a legal opinion, and after the latter had admitted that under the wording of the act the Algoma Steel Company's claim was valid the latter were paid $60,000. As the government though had never intended that the bounty should apply to rails at all, an order in council has since been passed making this point clear and shutting off any further claims of a like nature. The Canadian rail mills enjoy a customs protection which the government considers high enough to give them all the chance they require.

BRITISH COLUMBIA.

DEVELOPMENT AND MERGER OF MINES.

Consul Dudley, of Vancouver, furnishes information about the development of mines in British Columbia. He writes:

The Britiania mine, situated 30 miles from Vancouver, has now reached a point in its development at which shipment of ore and concentrates to the Crofton smelter, on Vancouver Island, recently purchased by the Britiania syndicate, will begin. The equipment is very complete, and has been constructed at great expense. The mine lies at an elevation of 3,500 feet above the beach at the head of Howe Sound. An aerial tramway, nearly 3 miles in length, has been built to bring the ore from the mine to the crusher, which has been built upon the side of the bluff that rises almost perpendicularly from the shore, at an elevation of about 100 feet. From the crusher the ore travels by gravity to the concentrator. The tramway has a capacity of 100 tons per hour. The concentrating plant is said to be the largest

in the world, having 60 tables. The concentrates are carried by gravity to bins at the shore so arranged that three cars may be loaded at one time by simply opening the chutes and allowing the concentrates to run into the cars.

The cars will be brought upon a transfer barge, and when loaded will be towed across the Gulf of Georgia to Vancouver Island, a distance of about 40 miles, where they will be run upon rails to the Crofton smelter. The contents of the cars will be dumped into the bin and the smelting and refining of the concentrates will be carried on day and night. The motive power of the aerial tramway, the crusher and all other machinery, including the compressed-air plant used to operate the drills, is electricity, generated on the spot. A small stream, with a fall of several hundred feet, gives power to the generator. The Britiania ore is copper and gold, and runs from $18 to $30 per ton. Recently a statement has been made in the local newspapers that in one of the branches of the mine a vein of ore running from $80 to $100 per ton had been struck. It is claimed that the body of ore in sight in the Britiania is, with possibly one exception, the largest yet developed upon this continent. It is expected that shipments to the smelter will begin next week. The first ore was brought down in the buckets two weeks ago.

HUNTINGTON-HEBERLEIN PROCESS.

The consul further writes that the Sullivan smelter, located at Marysville, turned out during the month of July between 500 and 600 tons of bullion, operating under the Huntington-Heberlein process. George Turner, a mining man, well known in the province, in speaking of this process is quoted as saying:

The first month's operations were largely experimental, as is always the case in new plants, but the results were exceedingly satisfactory, and the new smelting process is a success beyond question. The ore treated was exclusively from the Sullivan mine, running about 30 per cent lead and 12 to 14 ounces in silver. The smelter has a capacity of 100 tons daily, but the roasting apparatus is not sufficient to keep the plant running at capacity. It is proposed to enlarge the roasting capacity to handle 150 tons of ore daily.

One of the special features of the Huntington-Heberlein process is the roasting system. By the new method it is possible to eliminate the sulphur that has hitherto been a serious detriment to the lowering of smelter costs. In addition the cost of roasting is substantially reduced. With hand roasters it is possible at best to reduce roasting charges to $5, while with Huntington-Heberlein roasters this cost can be cut to $3. At the lower figure, too, the sulphur is eliminated. When the Sullivan smelter is running at the enlarged capacity outlined it is expected to treat Sullivan ores at $5 per ton, whereas the mine paid $18 to $20 when shipping to custom smelters.

MERGER OF MINES.

News has just reached this city of one of the largest mining deals yet made in the boundary district of this Province. A syndicate of Chicago gentlemen has effected a consolidation of the Freemont,

Strathmore, and the Barbara mines, all high-grade properties. The Strathmore and the Barbara are developed properties and ready to ship ore. The Strathmore is said to be the highest grade mine in that section for its depth, the ore running from $100 to $400 per ton. Seven hundred feet of work has already been done in this mine in the way of shafts, tunnels, and drifts. The Freemont lies between the Strathmore and the Providence and is said to have both leads, and is regarded in point of location as the best in the camp. Two hundred and seventy-five feet of work have been done upon this property. The syndicate is said to have set aside $25,000 for the development of the Strathmore and Freemont.

A NEW MANUFACTURE.

Mr. J. P. Smith, of Colorado, is about to establish a plant in this city for the manufacture of the Smith-Wilfley concentrator and the Smith magnetic separator. It is announced that Mr. Smith has contracted with the Vancouver Engineering Works to construct the iron and steel portions of the concentrators and separators, while a plant will be established to manufacture the parts made of wood, at which the machines will be assembled and placed on the market. Mr. Smith also intends to carry a full line of mine, mill, and smelter supplies. In addition it is announced that Mr. Smith will establish a small stamp mill and concentrator with cyanide tanks, etc., making a complete ore-testing plant.

CHINESE IN THE MINES.

Some time ago the British Columbia parliament enacted a law forbidding the employment of Chinamen in mining underground. The Wellington Colliery Company, desiring to test this law, continued to employ Chinamen in underground work, whereupon an agreed case was submitted to the courts, and passed finally to the privy council in London, England, the court of last resort. The judicial committee of the privy council has handed down a decision in favor of the colliery company. The committee sustained the contention of the company that it could send its employees to any portion of its property. Similar acts, relating to both Chinese and Japanese, have previously been disallowed by the Dominion government; and in one case Downing street decided against a law very similar to the one just acted upon.

This discussion has moved one of the Vancouver papers to comment editorially as follows:

"Taking this new decision into consideration, and knowing that any legislation which we may enact against the Japanese will be disallowed, the people here may well ask themselves, is it worth while to continue to pass local legislation against Asiatics? It seems better to try a new tack, and that is to educate the rest of Canada up to the British Columbia view. We are moved to make this comment because it seems to us that at present British Columbia is kicking against the pricks. We may go on legislating session after session, we may go on inaugurating costly legal appeal after costly legal appeal, but the results will be the same—the acts will be disallowed, the province will lose the lawsuits and be mulcted in costs. It is obviously necessary that the present

method of attacking obnoxious immigration and employment be changed or that our attitude against the Asiatics be modified. Which is it to be? The subject demands the deepest consideration. We know and we sympathize with the feelings of the working classes in this matter; at the same time, it appears absurd for the local legislature to keep on passing bills which it knows can only live a few months."

REVENUE FROM CHINESE IMMIGRATION.

During 1902 the revenue derived from Chinese immigrants amounted to $177,041, against $203,603 in 1903. The law advancing the head tax from $100 to $500 became operative on the 1st of January, 1904. The revenue collected from Chinese immigrants during that year amounted to $28,521. A very considerable amount of this was refunded, having been paid by students who have returned to China. Chinamen who have been residents of Canada returning home with permission to come back within one year pay a fee upon entering of $100.

CHINESE AS DOMESTIC SERVANTS.

Almost every family in this city depends upon Chinese boys and young men for their domestic servants. The diminution of the supply has caused a considerable advance in wages. Many incompetent Chinese servants can now command places at wages formerly paid to competent persons. Owing to the almost universal employment of Chinese as domestic servants very few white girls are willing to accept employment. During the salmon fishing season, which usually extends from about the middle of June to the middle of September, large numbers of the Chinese, who at other seasons are domestic servants, find employment at the canneries at much higher wages than they receive in families. Licenses as fishermen and boat pullers are not granted to Chinamen, but they do much of the work involved in dressing and canning the salmon.

HOSTILITY TOWARD ORIENTALS GENERAL.

British Columbia passed an act three times advancing the admission fee for Japanese immigrants to $500, but the Dominion government disallowed it each time. The local feeling seems to be as hostile toward the incoming of one oriental race as toward the other. But few Japanese seek service in families. They find employment in hotels as waiters and laborers and in the logging camps, sawmills, and upon construction work of railroads and municipalities. Licenses as fishermen and boat pullers are granted to Japanese who have become naturalized British subjects. It is estimated that about one-third of the men engaged in fishing and boat pulling are Japanese. A Japanese may become a naturalized British subject after three years' residence. Capitalists who are engaged in the work of developing the mines and the lumber and other interests seem to hold the opinion that it would be well for the province if a much larger number of the laboring class of both oriental races were admitted. Indeed very many housekeepers are coming to feel that their interests have not been promoted by the almost total exclusion of the persons they depend upon for domestic service.

IMPORTATION OF AUSTRALIAN LUMBER.

An importation of Australian lumber has recently been made at the port of Vancouver, some of which has been exported to Seattle, Wash. The lumber is thus described by the agent:

Turpentine piles (*Syncarpia laurifolia*): This wood is almost imperishable; for piles it is unrivaled, and is absolutely teredo proof. Being a hard wood, it has many advantages over the softer woods that are artificially treated. There are wharves of this wood, built sixty years ago, in New South Wales, as sound now as the day they were constructed. These piles are being exported in large numbers to England, South Africa, Germany, and Japan. For all kinds of marine work the turpentine tree is without a rival. Railway ties of this lumber are very valuable in alkali districts.

Ties: The ironwood ties exported from New South Wales are now world-famed. After long and severe tests the governments of South Africa and India last year placed orders for these ties to the number of 1,000,000 and 500,000, respectively. Ties were exhibited at the Chicago Exhibition, by the government of New South Wales, that were in a roadbed for twenty-four years and showed little or no signs of wear. Ties, like the turpentine piles, are receiving the attention that they deserve, and are being exported to all countries that possess railroads. The timbers mostly used for ties are tallow wood, blank butt, blue gum, gray gum, turpentine, and box.

Bridge timbers: It is difficult to say how long the Australian timbers will last for bridge construction. Mr. Henry Deane, chief engineer for railways in New South Wales, when passing through Vancouver, told railway and other engineers that bridges built under his supervision forty years ago have never needed repairing, and are now perfectly sound. The New South Wales government, in demolishing a low-level bridge over salt water, discovered upon drawing the piles that they were in a sound state of preservation, and built new wharves with timber that had been in water for forty-five years. The same timbers are used for decking as for ties, and will under the heaviest strain of mercantile traffic give a life of from twenty-five to thirty years.

Heavy car and wagon building: The timbers that are principally used for this class of work, where strength and durability are required, are spotted gum, blue gum, and black butt.

Cabinet and decorative woods: New South Wales possesses a number of exceedingly rich and handsome woods. These are now being largely exported to England and Germany for high-class furniture, billiard tables and requisites, pianos, etc.

REVENUE FROM LUMBER.

The Columbia government has received $400,000 revenue from timber for the year ended June 30, 1905. The collections exceed the estimate made at the beginning of the year by more than $150,000. Practically three-fifths of the revenue has accrued from licenses to cut timber upon government lands. Many lumbermen feared that the requirement that all logs cut upon government lands should be manufactured in the Province would result in a loss of revenue. The reverse has been the result, as the revenue for the past year is far greater than that for any previous year in the history of the Province.

NEWFOUNDLAND.

COMPETITION WITH CANADA FOR TRADE OF THE COLONY.

Special Agent Charles M. Pepper, who has been investigating trade conditions in Newfoundland, furnishes facts and figures that should be studied by American manufacturers and merchants who are interested in trade with our northern neighbors. Newfoundland is an independent colony, being entirely outside the jurisdiction of the Dominion of Canada. There seems to be a lively competition between the Dominion and the United States for Newfoundland trade. For the year ending June 30 the aggregate commerce between the Dominion and the colony was, in round numbers, $4,000,000, of which $3,000,000 was made up of imports from Canada, the remainder being exports from Newfoundland to the Dominion. The exports of dry goods from the United States to Newfoundland are about $150,000, but the trade is growing. The total exports of the colony are placed at $10,400,000, the bulk of which is made up of the products of the fisheries and the mines. The total annual exports from the United States to the colony aggregate about $2,700,000. Mr. Pepper's letter follows:

The chief competitors for the trade of this colony are the United States and Canada. Great efforts are made by Canada not only to hold but also to increase its share in the commerce of the colony. The nature of the interchange of products between the Dominion and Newfoundland appears from the statistics for the fiscal year ending June 30, 1904, which I have obtained from Ottawa. These statistics show that the total commerce between the Dominion and Newfoundland for that year amounted to $3,975,000, of which $2,899,000 was imported from Canada, while Newfoundland exported to the Dominion products to the value of $1,076,000.

The leading articles of export from Canada to Newfoundland were these:

Animals	$133,000	Drugs, dyes, and chemicals	$41,000
Oats	112,000	Coal	413,000
Butter	88,000	Minerals, metals, and manufactures of	162,000
Cheese	21,000	Cotton manufactures	39,000
Oatmeal and other grain products	37,000	Wool and manufactures of	34,000
Hay	40,000	Leather, sole and uppers	78,000
Pease	20,000	Boots and shoes	77,000
Green apples	45,000	Wood and manufactures of	68,000
Meats	94,000	Gunpowder	33,000
Wheat flour	931,000		

The leading articles of export from Newfoundland to the Dominion were:

Fish and products of fisheries	$687,000
Oils	115,000
Iron ore	207,000

TRADE WITH CANADA.

Concerning the trade between Newfoundland and the Dominion, it is to be noted that coal, which is the output of the Nova Scotia mines, is

the leading natural product. Coal veins have been discovered in Newfoundland, but the coal lies in pockets, and its exploitation up to this time has not given encouraging prospects that Newfoundland will be able to supply herself with fuel. On the other hand, the iron and steel works at Sydney and other points in Nova Scotia are dependent on the iron ore from Newfoundland.

It can not escape attention that Canada in the last fiscal year exported wheat flour to the amount of nearly $1,000,000 to Newfoundland. This trade has a direct interest for the millers of the United States. It is a most profitable one, but during periods of unusual demand in the United States it has been allowed to lapse, with resulting advantage to Canada. As regards shipment in the geographical sense, the Dominion millers have no marked advantage over the United States. Minor agricultural products can be handled with greater profit by Canadian shippers, since the small schooners take the produce from Prince Edward Island and the other near-by agricultural regions; but in respect to beef, bacon and hams, and canned meats the United States can compete on even terms.

UNITED STATES IN GOOD POSITION.

When it comes to manufactured articles, the United States also occupies a good position. Canada now has a trade in leather and in boots and shoes which, with proper effort, could be diverted, as the manufactured product from the United States usually gives greater satisfaction. The shoe factory in St. Johns gets most of its leather from Brooklyn. Between the competition of Canada and the United States the trade of England with Newfoundland is steadily losing ground, in the relative sense. That is, it remains about stationary, while the colony from year to year has increased imports. The largest aggregate of any one class of articles imported from England comes under the heading of dry goods, and amounts to about $650,000 per annum. The United States only exports $130,000 to $150,000 worth of dry goods to Newfoundland, but the trade is a growing one, and Newfoundland merchants are now visiting New York, Philadelphia, and Boston en route to England to make their purchases. In ready-made clothing and hats and caps the United Kingdom has the advantage, as also in cordage and fishermen's outfits, but the United States is gaining some of this trade. In household hardware, and in tools of all kinds, the United States is ahead, but there is an opportunity for gaining more of these imports.

The development of the lumber industry and the systematic exploitation of the pulp wood, which recently has been undertaken by large combinations of capital, offer further inducements for the importation of machinery from the United States, which always has had the preference. The copper deposits also are being worked chiefly by American citizens, and the mining machinery used for this purpose will be imported from the United States.

Outside of the products of the fisheries the chief exports from Newfoundland to the United States are minerals, the copper ore ranging in value from $200,000 to $250,000, and the iron ore from $60,000 to $70,000. The colony now is also building up an export trade in whale fertilizers and seal products, for which there is a good demand in the United States.

GROWTH AND CHARACTER OF MARKETS.

The growth in the prosperity of Newfoundland during the last few years, which has resulted in placing the colony in a very strong financial position with a balance of trade in her favor, has been due chiefly to the improved condition of the fishing industry, though the development of the pulp wood and other forest products and some increase in the output of the mines have had an appreciable effect. The position as respects exports will be better understood from the statement that during the last year for which revised statistics are available the total amount was $10,400,000, of which products of the fishers represented $8,276,000; mines, $1,289,000; furs and skins, $350,000; forests, $325,000. For the same year the total of the imports reached $9,450,000.

The character of the Newfoundland market and the articles which find the readiest sale may be understood from a summary of the value of leading imports during that year. They were as follows:

Beef	$213,000	Wines and spirits	$75,000
Pork	395,000	Flour (392,000 barrels)	1,614,000
Butter	118,000	Leather and leatherware	303,000
Salt	103,000	Hardware (iron and steel, railway materials, etc.)	939,000
Sugar	139,000	Cottons, woolens, silks, linen, and apparel	1,338,000
Tea	178,000	Coal (164,000 tons)	512,000
Molasses	297,000		
Tobacco	90,000		

AMERICAN MANUFACTURERS ADMONISHED.

The United States has shared more than any other country in the increased buying power which has been developed by the inhabitants of Newfoundland. In the period from 1888 to 1892 England's share of the total trade was 33 per cent, Canada's 20 per cent, and that of the United States 14.5 per cent. In the period from 1900 to 1904 England's proportion had dropped to 24.5 per cent, Canada's had grown to 21.3 per cent, and that of the United States had increased to 21 per cent; but at the present time Canada is making a persistent, systematic, and well-directed effort by every means at the command of the Dominion government to secure a larger proportion of this trade at the expense of the United States. For that reason I beg again to direct attention to the movement in the flour trade and to the leather, hardware, and other manufactures, which, with a full knowledge of the circumstances, may be held by the United States. But this can not be done unless the Canadian competition is met at all points and the Newfoundland market closely studied.

CODFISH CHEESE.

Consular Agent Keating, of Port aux Basques, Newfoundland, writes regarding the new process of putting up codfish, known as "fish cheese." He says it is prepared from fresh cod and is put up in sealed tins of 1 pound each, which are packed in cases of 48 pounds and sold to the trade wholesale at $7 per case of forty-eight 1-pound tins. It retails in the United States at 25 cents per tin. Being put up in a really fresh state it makes a delicious hash, fish cake, or fish ball.

MEXICO.

COTTON CROP REPORTS EXAGGERATED.

Consul-General Parsons writes from the City of Mexico that published reports have exaggerated the probable yield of the cotton crop of Mexico. He says:

In view of the fact that the Mexican papers have recently published reports to the effect that the Mexican cotton yield for 1905 will be a record breaker, and these extremely optimistic reports of the Mexican cotton men are being copied by the press at home, I made inquiries regarding the matter from a practical cotton man here who seems to think that the year promises to be only a fairly good one. Following is the substance of his report: The papers speak of the coming crop as that of 1906. My informant tells me that it is in reality the crop of 1905, as picking has already been commenced, and a large percentage of the picking will be completed before the end of December. As to the yield, he states that if an excellent judge were to ride through the fields of the whole district at the present time it would be impossible for him, except by a lucky guess, to estimate the yield within 15 per cent, especially in view of the fact that August is one of the most critical months, and a frost at this time might make a difference of 10 per cent. He says that there is no more chance of raising 150,000 bales—the amount prophesied in newspaper reports as a possible yield—than there is of driving Texas out of the export cotton business.

"There are," said my informant, "practically no adjoining cotton-growing districts in northern Mexico that amount to anything. A few outlying cotton plantations, not within the limits of the Laguna proper, are included in that district in figuring on the yield. I do not think that 100,000 bales are at all probable and consider that a high maximum for possibilities in the Laguna this year."

As to the published statement that the streams are everywhere well filled, it is said that during the last two weeks streams south of the Federal District are almost at a dry-season level and very much lower than they have been at any time in the rainy season for the last two or three years, a fact which to my knowledge is true of streams within the Federal District.

COMMERCIAL EXPOSITION.

Consul Canada, writing from Veracruz, calls attention to a proposed commercial exposition to help American trade. He furnishes an outline of a project for promoting and extending trade between the United States and Mexico, prepared by Edward J. Norton, which in part is as follows:

A project which has been under careful consideration for some time, and which will be placed before the manufacturers of the United States within a few weeks as an effective means of increasing and developing export trade with Mexico, is the proposed establishment in the City of Mexico of a permanent commercial exposition for the exhibit and sale of the manufactures and products of the United States.

This commercial exposition will be more than a showroom. It is planned as a selling organization with all the attractions of an exposition; with all the equipment of a large sales room; with individual and distinct features, where the Mexican merchant will be able to study the samples, assisted by able salesmen, and where the buyer can be given practical illustrations of the working of mechanical exhibits. In addition to the sales force, some new, useful and necessary departments have been added, so designed as to fully cover every difficulty or question occurring in commercial affairs. The concentration of exhibits will be a big feature and a strong attraction to the Mexican merchant, who, as a rule, carries large and varied stocks, and the efficient service which a highly organized institution of this character can give the buyer will be one of its most important features.

A special bureau of trade investigations and reports will be maintained in the interests of the exhibitor, covering trade openings and opportunities, and a complete system of instruction will be given shippers in order to eliminate costly and annoying errors. The exposition offers a direct means of communication between the exporter and his customer, and should give uniformity of satisfaction to both.

The old plan of simply exhibiting samples in the endeavor to attract and build up trade or open new markets without active, interested action back of it served its purpose well enough, perhaps, in its time, but to-day the most modern, effective, and result-producing methods must be used and adapted intelligently and carefully to foreign needs and customs.

The plan of organization is that of a stock company in which the exhibitors themselves will be interested, giving them therefore a voice in its management and direction.

CHANGE IN MONETARY SYSTEM.

Consul Canada further reports that under the new system which went into operation July 15 the new Mexican peso will henceforth be the fixed standard of currency, and the value of all foreign coins must be expressed in equivalents of the same. In quoting the values of foreign coins the following arbitrary signs have been adopted for expressing the units of such legal currency: $, signifies standard Mexican peso; Dls., American dollar; £, British pound sterling; Frs., French francs; Ms., German marks; P, Spanish peseta; Ks., Austrian crowns.

The foregoing signs are obligatory in all business transactions. The phrase "peso oro," which formerly signified an American dollar must not be used to designate that coin, but instead of it the word "dollar." Exchange formerly quoted at — per cent of the value of the Mexican silver peso must now be expressed in decimal parts of the value of the new Mexican standard peso. Whenever the standard value of a foreign coin is less than that of the Mexican 3 points decimal will be used in expressing the value in Mexican currency, and on the contrary 4 points decimal may be used.

NEW PAPER-MAKING MATERIAL.

Consul Griffith, writing from Matamoras, says:

Interest has been created in this district by the suggestion that the fiber of the papaya, commonly known as the Mexican papaw, would

probably afford an admirable material for the manufacture of high-grade paper.

The fiber in question is the full length of the tree trunk and appears to be quite strong and rather silky in texture. With the exception of the bark and a small pithy heart, the trunk is composed entirely of this fibrous material. Some samples of the fiber have been sent to an American paper expert and manufacturer with the purpose of having it tested with reference to its adaptability for the manufacture of the higher grades of paper.

The plant grows rapidly, attaining a diameter of from 2 to 3 inches when 1 year old. It requires no special care nor cultivation and grows luxuriantly on either the sandy or black waxy soil of this region.

Although known as the Mexican papaw, it is claimed that the papaya is not indigenous to Mexico, but was brought to this country originally from the Moluccas by the Spaniards, a fact well worth noting, for if it proves to be anything like as good a paper maker as its friends urge it might be tried in Florida and California.

To judge from its appearance, it seems probable that no decorticating machinery would be required in its treatment, as the fibrous material is devoid of woody elements to all appearances.

UNITED STATES.

EXPORTS OF MANUFACTURES.

REMARKABLE LARGE INCREASE THE LAST FISCAL YEAR.

A statement issued by the Bureau of Statistics, Department of Commerce and Labor, shows that the exports of manufactures for the year ending June 30, 1905, amounted to $543,620,297, against $452,445,629 in the preceding year. The growth in exports of manufactures far exceeds the growth of population or the growth in commerce as a whole.

Iron and steel manufactures supply about one-fourth of the manufactured articles exported, the total in 1905 having been $134,727,921, as against $111,948,586 in the preceding year, an increase of nearly twenty-three million dollars. Steel rails showed an increase of six million dollars, chiefly in shipments to Canada, South America, Mexico, the West Indies, and Japan and other oriental countries, in several of which railway development is proceeding at a rapid rate. Machinery also showed an increase of more than six million dollars over 1904. A conspicuous feature is the large increase in exports of locomotives to Japan, 151 engines having been sent thither in 1905, as against 74 in the previous year. Mexico and Argentina increased their purchases of American sewing machines, while Japan increased her purchases of electrical machinery and builders' hardware, each in a substantial degree.

Copper manufactures, consisting largely of pigs and bars, form the item of second importance, the total being $86,225,291 in 1905 as compared with $57,142,081 in the preceding year. This growth of practically $30,000,000 in a single year is accounted for by an increase

of nearly $10,000,000 in exports to China, $3,000,000 to the United Kingdom, $1,500,000 to France, $3,000,000 to Germany, $4,500,000 to Netherlands, $1,250,000 to Russia, and nearly $2,000,000 to other countries.

Refined mineral oil ranks third in the exports of manufactures, the total being $71,888,317 as against $71,753,552 in the preceding year. The quantity increased from 847,000,000 gallons in 1904 to 951,000,000 in 1905.

Cotton manufactures present one of the striking features of the year's export record, having advanced from $22,403,713 in 1904 to $49,666,080 in the year just ended. The growth occurred chiefly in cotton-cloth exports, $14,696,199 being the total in 1904 and $41,320,542 the figure for 1905. To China there was an increase of about 400,000,000 yards over last year's exportation of $76,900,000, and the value of our cotton-cloth exports to that country increased from $4,000,000 in 1904 to $27,750,000 in 1905. Japan was the only other country to show a considerable increase in takings from us, the total being 16,000,000 yards, valued at $1,125,000, as against less than 440,000 yards in 1904, valued at $55,000.

Leather, and manufactures of, fourth in importance in the list, showed an increase of $4,000,000, the total in 1905 having been $38,000,000 as compared with $34,000,000 in the preceding year. In this class, also, Japan should be credited with the chief increase. To Japan we exported 16,000,000 pounds of sole leather, valued at $4,146,428, as against 2,000,000 pounds, with a valuation of about $500,000, in the preceding year. The increase in boots and shoes is principally in exports to the West Indies and Mexico, each of those countries being credited with about $400,000 in excess of the 1904 figures, while the total increase in boot and shoe exports to all countries was but little over $818,000.

Other important articles exported were: Agricultural implements, $20,750,000; chemicals, drugs, dyes, etc., nearly $16,000,000; wood manufactures, $12,500,000; cars, carriages, and vehicles, $10,666,000; scientific instruments, $8,000,000; paper and manufactures of, $8,250,000; paraffin and paraffin wax, $7,750,000; fiber manufactures, $6,750,000; tobacco manufactures, $5,666,000; books, maps, etc., nearly $5,000,000; and india-rubber manufactures, $4,750,000.

The following table shows the values of the principal articles of domestic manufacture exported from the United States in the fiscal years 1904 and 1905:

Articles.	1904.	1905.
	Dollars.	*Dollars.*
Agricultural implements	22,749,635	20,721,741
Blacking	597,397	599,366
Books, maps, etc	4,347,304	4,814,160
Brass, and manufactures of	2,557,484	3,025,764
Bricks	499,127	642,501
Candles	510,183	701,357
Cars, carriages, and vehicles	10,936,618	10,610,137
Cement	530,216	1,484,795
Chemicals and drugs	14,480,323	15,859,422
Clocks and watches	2,281,195	2,316,414
Copper, and manufactures of	57,142,081	86,225,291
Cotton manufactures	22,403,713	49,666,080
Earthen, stone, and china ware	692,834	880,827
Fiber manufactures other than of cotton	6,411,636	6,766,809
Glass and glassware	1,978,181	2,252,799
Gunpowder and other explosives	2,441,596	2,559,837

Articles.	1904.	1905.
	Dollars.	*Dollars.*
India-rubber manufactures	4,436,124	4,780,817
Instruments and apparatus for scientific purposes	8,297,723	8,172,980
Iron and steel manufactures	111,948,586	134,727,921
Jewelry, and manufactures of gold and silver	1,365,654	1,419,225
Lamps and chandeliers	1,502,888	1,579,125
Leather, and manufactures of	33,980,615	37,936,745
Malt liquors	854,119	1,012,808
Marble and stone manufactures	1,372,001	1,055,220
Musical instruments	3,230,982	3,144,787
Oils, mineral	72,487,546	73,433,787
Paints, pigments, and colors	2,756,581	3,126,317
Paper, and manufactures of	7,543,728	8,238,088
Paraffin and wax	8,859,964	7,789,160
Plated ware	693,618	703,783
Silk manufactures	466,519	620,572
Soap	2,499,933	2,670,687
Spirits, distilled	2,276,826	2,572,152
Tobacco manufactures	5,042,719	5,690,203
Wood manufactures	12,981,112	12,560,935
Wool manufactures	1,987,938	2,035,054
Zinc manufactures	258,710	1,319,619
All other manufactured articles	17,008,912	19,872,712
Total manufactures	452,415,921	543,620,297
Total agricultural products	853,643,073	821,074,439
Total, all other articles	129,120,023	127,049,959
Grand total domestic exports	1,435,179,017	1,491,744,695
Foreign merchandise exported	25,648,254	26,817,025
Total exports	1,460,827,271	1,518,561,720

FOREIGN COMMERCE.

The exports of domestic merchandise from the United States for the seven months ending July 31, 1905, aggregated $848,903,447, an increase of $89,953,871 compared with the corresponding period of the preceding year. The annexed table shows the values, by months, for the two periods:

Month.	1904.	1905.
January	$142,045,170	$123,597,383
February	118,800,282	106,870,782
March	119,898,449	136,978,429
April	109,880,405	128,575,374
May	89,886,925	123,793,509
June	93,224,866	121,153,486
July	85,223,479	107,934,424
Total	758,949,576	848,903,447

In the same periods the aggregate of imports was $673,798,148 in 1905 and $579,531,496 in 1904, an increase of $94,266,652 in favor of the former. The excess of exports, which constitutes the balance in favor of the United States, is shown in the annexed table:

	1904.	1905.
Exports	$758,949,576	$848,903,447
Imports	579,531,496	673,798,148
Excess	179,418,080	175,105,299

MOVEMENT OF GRAIN.

The Bureau of Statistics reports that the total grain receipts at twelve important interior primary markets during the month of June amounted to 50,540,585 bushels, of which 8,420,058 bushels were wheat, 23,344,757 corn, 15,531,698 oats, 3,005,418 barley, and 238,654 rye. A total inbound movement during the corresponding month in 1904 aggregated 45,230,543 bushels, being over 5,000,000 bushels less than the 1905 receipts, due largely to increases during the latter year in the arrivals of corn, oats, and barley. For the first half of the current year, 272,580,182 bushels of grain were received at these markets, in contrast with 273,748,133 bushels in 1904. Although large gains were made in corn receipts during the present year, as compared with similar movements in 1904, shrinkages in wheat, oats, barley, and rye arrivals were more than enough to offset these gains. Of the interior markets prominently identified with the receipts of grain, Chicago led, having received 107,643,145 bushels during the first six months of the current year. Minneapolis came second with 47,206,160 bushels, and St. Louis third with 22,453,976 bushels.

INTERNAL-REVENUE RECEIPTS.

A preliminary report issued by the Commissioner of Internal Revenue shows the receipts from internal-revenue sources in detail for the fiscal year ending June 30 last, compared with the preceding year. The aggregate receipts for 1905 were $234,187,976, against $232,903,781 for 1904. The Commissioner gives a table showing the quantities of distilled spirits, wine made in imitation of champagne, fermented liquors, manufactured tobacco, snuff, cigars, cigarettes, oleomargarine, filled cheese, adulterated butter, and process or renovated butter on which tax was paid during the last two fiscal years. The table follows:

Articles taxed.	1904.	1905.
Spirits distilled from fruits.....gallons..	1,637,303	1,595,021
Spirits distilled from materials other than fruits.....do....	116,848,372	116,143,732
Wine, imitation of champagne, etc.....bottles (pint)..	.....	6,878
Fermented liquors.....barrels..	48,208,133	49,459,540
Cigars weighing more than 3 pounds per thousand.....number..	6,707,471,863	6,860,914,577
Cigars weighing not more than 3 pounds per thousand.....do....	696,844,907	728,422,630
Cigarettes weighing not more than 3 pounds per thousand.....do....	3,226,682,261	3,368,212,740
Cigarettes weighing more than 3 pounds per thousand.....do....	8,421,610	8,420,933
Snuff.....pounds..	20,157,580	21,131,861
Tobacco, chewing and smoking.....do....	328,650,710	334,489,110
Oleomargarine.....do....	48,071,850	49,881,644
Filled cheese.....do....	324,323	.....
Adulterated butter.....do....	8,659	3,671
Process or renovated butter.....do....	54,747,736	61,366,596

SALT INDUSTRY.

A bulletin issued by the United States Geological Survey states that the production of salt in the United States during 1904 was 22,030,002 barrels (of 280 pounds), valued at $6,021,222, as compared with 18,968,089 barrels, valued at $5,286,988 in 1903. This is the largest production ever reported except in 1902, but the average net price per barrel (27.332 cents) is lower than that reported in 1903 (27.873 cents) or in any previous year, with the exception of 1902, when the average net price realized was only 23.769 cents a barrel.

The most noteworthy feature of the year 1904 was the increase of 1,193,620 barrels in the production of rock salt. This increase was due in large part to the expansion of the salt industry of Louisiana, where rock salt is easily and cheaply mined in the "mounds" which occur in the southern part of the State.

The chief salt-producing States are New York and Michigan, and the combined output from these two States amounts to about two-thirds of the total production of the United States. The five leading salt-producing States during 1904 were New York, 8,600,656 barrels; Michigan, 5,425,904 barrels; Ohio, 2,455,829 barrels; Kansas, 2,161,819 barrels, and Louisiana, 1,095,850 barrels.

The actual consumption of salt in 1904 was 23,116,971 barrels, or about 2.46 times what it was in 1880.

The imports of salt in 1904 amounted to 332,279,481 pounds. Great Britain contributed 98,943,611 pounds, worth $301,696; Italy, 106,060,288 pounds, valued at $75,756; Canada, 11,102,273 pounds, valued at $27,529; West Indies, 105,160,371 pounds, worth $89,878, and other countries 20,882,959 pounds, valued at $20,371. The total value of all the imported salt was thus $515,230.

During the fiscal year ending June 30, 1904, the movement of exported salt changed notably from the course of trade in the previous year. Exports to Japan dropped off about 38 per cent, probably on account of the war with Russia, but trade with Mexico more than doubled, and the already large exportation to the Dominion of Canada increased nearly 100 per cent. The total exports during the year ending June 30, 1904, were 25,508,577 pounds, valued at $99,066, whereas in the year ending June 30, 1903, 16,446,380 pounds were exported at a valuation of $70,296, an increase for 1904 of 55.1 per cent in quantity, but of only 40.9 per cent in value.

VALUE OF CHAMBERS OF COMMERCE.

The value of organization and cooperation is more generally appreciated by manufacturers and merchants of European nations than by those of the United States. The value of this cooperation is seen in the promotion of the trade of the countries that are practicing it. On this subject the New York Commercial of July 28, says:

A great opportunity is ahead for patriotic American merchants who desire to further their country's commercial good by assisting in the establishment of American chambers of commerce in foreign countries. In this branch of commercial enterprise the United States seems to be much less progressive than most of the European nations. The United States has at present only three foreign chambers of commerce—located in Paris, Berlin, and Brussels.

France leads the nations in this line of activity with twenty-nine foreign chambers of commerce and is followed by Italy with twenty-one. Great Britain, Spain, and the Netherlands follow with six each; then come Austria-Hungary and Belgium with five. Greece and Russia have two each, and Switzerland one. Germany has no such organizations. It made experiments at Brussels and Bucharest, but each failed because of financial difficulties.

Notwithstanding Germany's experience, the strong showing of other European nations would seem to indicate that foreign chambers of

commerce have passed through the experimental stage and are now recognized institutions of no little strength. Of the American bodies, that at Berlin is perhaps the most active. Its membership is composed of most of the large American firms doing business in Germany. It publishes a semimonthly bulletin, which indicates a keen interest in all the commercial affairs that affect the trade relations of Germany and America, and a watchful eye for all that concerns America's commercial welfare.

CONSULAR INVOICES BASIS FOR ENTRIES.

The Board of United States General Appraisers, in a decision rendered in New York on August 2, held that collectors of customs must liquidate entries on the basis of consular invoices when such papers have been certified to as correct by the appraising officers. It seems that the Compagnie des Sucreries de Puerto Rico imported sugar machinery which was entered upon a pro forma invoice, owing to the fact that immediate possession of the machinery was desired in order that it might be put in place and utilized in the manufacture of sugar from the crop of cane which was about to be harvested. Later, a consular invoice was received. In liquidating the entry the collector accepted the highest value stated for each article, whether such value was stated in the consular invoice or in the pro forma invoice. The importer represented to the general board that the assessment of duty should have been made upon the valuation as shown by the consular invoice, which was certified to as correct by the appraising officer. Judge Somerville says the claim is well taken and should be sustained.

LIABILITY OF AUTOMOBILISTS.

Consul-General Guenther, of Frankfort, transmits the following court decision making automobilists in Germany liable for injuries caused by careless driving:

The Hanseatic supreme court at Hamburg has handed down a noteworthy decision with reference to the liability of automobilists. Upon a country road an automobilist had overtaken a milk wagon without a previous signal. The horse of the milk wagon took fright and the driver and his wife were thrown out of the wagon and received injuries. The court fined the automobilist $35. The couple then brought a civil suit for damages against the automobilist. The lower court held the suit to be justified. The appeal by the automobilist was not entertained by the Hanseatic supreme court. The court stated it to be the simple duty of a careful automobilist to give notice by a signal of the intention to overtake. To the claim of the defendant that the signal appliance had failed, the court remarked "that the automobilist should have waited until he could have given some other effective signal before passing the wagon." Neither was the further claim recognized that the occupants of the wagon were at fault in not paying proper attention, as otherwise they should have heard the noise of the coming automobile. The occupants, who were passengers upon the wagon, were not bound to pay attention. As the defendant by his carelessness had caused the accident, he was legally liable. The amount of damages will be fixed later on.

NEW VESSELS OF THE UNITED STATES.

The following new vessels of the United States, over 20 tons, have been officially numbered by the Bureau of Navigation, Department of Commerce and Labor, between August 1 and August 14, inclusive:

Name.	Rig.	Gross tons.	Material.	Where built.	Home port.	Owner.
Research	Stern-wheel steamer	45	Steel	Liverpool, England	St. Michael, Alaska	W. E. Geigor.
Ella	do	419	Wood	Seattle, Wash	San Francisco, Cal	Harry Bratnober.
Lady Ilka	Schooner	25	Wood	Bay St. Louis, Miss	Gulfport, Miss	Peter Copelick.
William A. Paine	Screw steamer	5,798	Steel	Cleveland, Ohio	Cleveland, Ohio	Pioneer S. S. Co.
Invader (K. V. B. F.a)	Schooner	155	Steel	Boston, Mass	New York, N. Y.	Roy A. Rainey.
Eliza M	Gasoline screw	27	Wood	Bridgeport, Conn	do	Chas. A. Mathisen.
William A. Rogers	Screw steamer	6,524	Steel	Lorain, Ohio	Cleveland, Ohio	American Ship Building Co.
Thomas J. Johnson	do	73	Wood	New Baltimore, N. Y.	Albany, N. Y.	H. Miller.
Waverly (K. V. B. G.)a	Schooner barge	1,000	Steel	Port Richmond, N. Y.	New York, N. Y.	Delaware, Lackawanna and Western R. R. Co.
Shepherdess (K. V. B. H.)a	Gasoline yacht	101	Wood	Essex, Mass	Philadelphia, Pa	S. F. Houston.
Betsy Ross	Screw steamer	39	Wood	Chelsea, Mass	Boston, Mass	Joseph Ross.
C. H. Conover	do	203	Steel	Buffalo, N. Y	Chicago, Ill	Merchants' Lighterage Co.
Narragansett	do	244	Wood	Saunderstown, R. I	Newport, R. I	Stillman Saunders.
El Casa	Gasoline yacht	32	Wood	Hackensack, N. J	New Haven, Conn	J. H. Scharff.
Stillman F. Kelley	Schooner	685	Wood	Thomaston, Me	Thomaston, Me	Washburn Bros.
Superior	Screw steamer	4,544	Steel	Ecorse, Mich	Buffalo, N. Y	Western Transit Co.
Mitchelle C	Schooner	135	Iron	Conway, S. C	Georgetown, S. C	Waccaman Line of Steamers.
Elsie	Gasoline yacht	21	Wood	Providence, R. I	Providence, R. I	Mrs. Anna B. Gates.
George T	Gasoline screw	25	Wood	Tottenville, N. Y	New York, N. Y	George T. Androvette.
Powell Stackhouse	Screw steamer	6,171	Steel	Wyandotte, Mich	Cleveland, Ohio	Mahoning S. S. Co.
Kitty Woodall	Gasoline screw	103	Wood	Cambridge, Md	Baltimore, Md	Andrew Woodall.

a Signal letters.

Argentine Duties on Cigars and Tobacco.

Mr. A. M. Beaupré, American minister to the Argentine Republic, forwards to the Bureau of Manufactures, through the State Department, a copy of a decree fixing customs duties on cigars, cigarettes, and tobacco imported into that Republic after July 1 of this year. The duty is ad valorem based upon weight. On manufactured tobacco imported from the United States and the Philippines, the valuation of which is $6 per kilo, the duty is $2 per kilo, and when the valuation is $12, the duty is $4 per kilo. The text of the decree is on file at the Bureau of Manufactures.

FOREIGN TARIFFS.

GERMANY.

THE GENERAL TARIFF AND CONVENTIONAL RATES.

The Bureau of Statistics, Department of Commerce and Labor, has prepared the following explanation of the German tariff rates that will become effective March 1, 1906, under the law of December 25, 1902, and under the commercial treaty of February 22, 1905, made with certain European countries. The existing commercial treaties between the United States and Germany are also briefly explained:

The action of the German Reichstag in ratifying, on February 22, 1905, the new commercial treaties with Russia, Austria-Hungary, Italy, Switzerland, Belgium, Roumania, and Servia completes the work of preparation of a new German tariff, on which the Government of the Empire has been engaged since 1897. The new tariff law will go into effect March 1, 1906, and will remain in force at least until the close of the year 1917.

The German tariff consists of a double set of duties; the "general" rates, which received the sanction of law December 25, 1902 (though they have not been put into force as yet), and the "conventional" or those arrived at by means of bargaining with foreign countries and embodied in treaties or "conventions" mentioned above. Not all the rates of the general tariff are reduced in the conventional; the reductions which occur are made in consideration of equivalent concessions by other countries. While the different countries are each trying to secure, through negotiations, lower rates of import duties on those articles which constitute important items in their export trade with Germany, the combined lowest conventional rates agreed upon with the different parties to the treaties are made applicable alike to all the countries enjoying the benefit of the "most-favored-nation" treatment. By that is meant in Europe that the nation enjoying such privilege can not be subjected to higher import duties on its products than those levied on similar products coming from other countries.

NO FAVORED-NATION CLAUSE.

There is no treaty containing a "most-favored-nation" clause in existence between the United States and the German Empire. The "most-favored-nation" treaty of 1828 was concluded between the United States and Prussia. Treaties containing a similar clause were concluded with the Hanseatic republics of Lubeck, Bremen, and Hamburg in 1827 and the Kingdom of Hanover in 1846.

Under the present German tariff, imports from the United States have been subject to the lower or "conventional" set of duties, at first under the so-called "Saratoga convention" of 1892, and later by virtue of the commercial agreement between the United States and Germany of July 10, 1900. By the terms of the latter agreement this country was granted the conventional rates of duties fixed by the commercial treaties of 1891–1894 between Germany and the seven countries mentioned above, in consideration of the reduction of duties, authorized by section 3 of the Dingley Act of 1897, on argols, brandies, wines, paintings, and statuary imported from Germany into the United States. This agreement may be terminated by either country at any time upon giving three months' notice; and as the treaties of 1891–1894 with the above-named countries which govern the tariff rates now accorded to us will all expire on March 1, 1906, our agreement of 1900 will necessarily expire on that date, unless sooner terminated.

RELATIVE POSITION OF THE UNITED STATES.

The importance of the United States to German foreign commerce is seen from the fact that this country holds first rank among the nations from which Germany receives its imports and third rank among countries of destination of German exports, while in the foreign commerce of the United States Germany is second only to Great Britain both in the export and import trade.

The total exports of Germany to foreign countries increased from $756,000,000 in 1891, the year of the adoption of commercial treaties, to $1,243,000,000 in the year 1904, showing an increase of about 65 per cent. During the same period the imports from Germany into the United States increased from $97,000,000 in the fiscal year 1891 to $109,000,000 in 1904, or about 12 per cent. The imports from this country into Germany increased in the same years from $96,000,000 to nearly $225,000,000, or more than 134 per cent.

PRINCIPAL IMPORTS INTO GERMANY.

The following table presents the value of some of the principal articles imported into Germany from the United States during the calendar year 1904, the rates of duty at which they are now admitted to Germany, and the so-called "autonomous" and "conventional" rates to go into effect on March 1, 1906. The latter rates apply to imports from all countries which by that date will have concluded new commercial reciprocity treaties or "conventions" with Germany or to which the "most favored nation" treatment may be accorded, while the "autonomous" rates will apply to imports from all other countries.

Articles imported into Germany from the United States.	Value.	Rates on imports from "most favored nations," including U. S.	New autonomous tariff rates.	New conventional tariff rates.
		Rate per 100 pounds.		
Total imports from the United States	*Million dollars.* 225.0	*Dollars.*	*Dollars.*	*Dollars.*
Animal products:				
Bacon	.4	2.16	3.89	
Beef, fresh	.5	1.62	4.87	2.92
Beef, simply prepared		1.84	6.48	3.78
Intestines and other parts not fit for consumption	2.5	Free.	Free.	Free.
Lard and oleo oil	19.8	1.08	1.36	1.08
Tallow	1.4	.22	.27	
Oleomargarine, butter	[h] 2	1.73	3.24	2.16
Breadstuffs:				
Corn	[a] 4.6	[b] .10	[b] .31	[b] .19
Rye	[c]	[b] .21	[b] .42	[b] .30
Wheat	6.4	[b] .23	[b] .49	[b] .36
Wheat flour	[h] .3	[d] 1.55	[d] 4.00	[d] 2.16
Copper, crude (bars, ingots, etc.)	28.6	Free.	Free.	Free.
Cotton, unmanufactured, and cotton waste	82.3	Free.	Free.	Free.
Cycles, and parts of	[e]	2.60	16.19	10.79
Fertilizers, phosphate of lime	3.6	Free.	Free.	Free.
Fruits:				
Dried (apples, pears, apricots, peaches, prunes), in barrels	4.6	.43	1.08	.43
Apples, fresh, not packed:				
Sept. 25–Nov. 25		Free.	Free.	
Nov. 26–Sept. 24		Free.	.27	
Packed	.6	Free.	1.08	
Sept. 1–Nov. 30		Free.		Free.
Dec. 1–Aug. 31		Free.		.22
Packed		Free.		.54
Oranges		.43	1.30	.35
Furs and fur skins	1.6	Free.	Free.	Free
Hides and skins, cattle	1.1	Free.	Free.	Free
Iron and steel, manufacturers of:				
Machinery—				
Agricultural [i]	1.5	.32–.86	.43	.43
Other, n. e. s.	.8	.32–.86	.32–2.16	.32–1.30
Sewing machines, without frames	1.2	2.60	8.79	
Typewriters and adding machines	[h] .4	2.60	6.49	
Leather and manufactures of:				
Leather, half or entirely dressed, in pieces of over 8 kilos each	.9	1.94	3.24	3.24
Leather, glove		3.89	3.89	
Leather, patent		3.89	5.40	
Boots and shoes	[h] .3	[f] 5.41–7.02	[f] 9.19–19.47	[f] 6.49–9.74
Naval stores:				
Turpentine and rosin, oils, and spirits of turpentine	6.8	Free.	Free.	Free.
Oil cake	5.3	Free.	Free.	Free.
Oils:				
Mineral—				
Refined	14.5	.65	1.08	.65
Lubricating	1.7	1.08	1.08	.65
Cotton seed—				
In barrels, denatured	2.7	.43	.54	
In barrels, fit for consumption		.43	1.35	
In bottles, fit for consumption		2.16	2.16	
Paraffin, stearic acid, etc	.8	1.08	1.08	1.08
Tobacco, leaves	1.9	9.19	9.19	
Wood for building and industrial purposes:				
Soft	6.1		[g] .29–1.79	[g] .17–1.03
Hard		[g] .29–1.11	[g] .43–2.38	[g] .26–1.37

[a] The value of corn has been declining of late. It was nearly $25,000,000 in 1900.
[b] Per bushel.
[c] The value of the annual rye imports greatly fluctuates. According to German trade statistics, the value was $6,813,000 in 1898, and $1,017,000 in 1903.
[d] Per barrel.
[e] The value of our exports of cycles has gradually declined from more than $1,000,000 in 1899 to $130,000 in 1904.
[f] Rate decreases as weight of boots or shoes, per pair, increases.
[g] Per cubic meter.
[h] Imports during calendar year 1903.
[i] Driven by motive power.

AUTONOMOUS RATES NOT AFFECTED.

It will be seen from the table that cotton and copper, the two most important articles in our export trade with Germany, nearly one-half in value of the total imports into Germany from this country, will continue to be admitted free of duty. The same is true of fertilizers, furs and fur skins, rosin and turpentine, and oil cake and oil-cake meal—all of which Germany will continue to admit free under the autonomous as well as under the conventional tariffs, because these products are required in her industries and can not be produced at home in sufficient quantities.

In the case of a number of products, each constituting an important item in the import trade of Germany with the United States, the conventions with the countries named do not affect the autonomous rates. Among these are leather, the increases of duty on which, as compared with the existing rates, range from 40 to 67 per cent according to quality; cotton-seed oil, with the duty raised 25 per cent for oil made unfit for consumption (denatured), and 214 per cent for oil fit for human consumption; bacon, with an increase of duty of 60 per cent; tallow, 23 per cent; sewing machines, 45 per cent; typewriters, 150 per cent; lumber, from 57 per cent to 100 per cent, according to kind, etc. The commercial treaties of Germany with the seven countries mentioned above have not affected these rates, partly for the reason that those countries are not so much interested in the trade in these products as is the United States.

INCREASES AND REDUCTIONS.

As for the other products enumerated in the table, the new conventional rates show some reductions as compared with the autonomous rates, but they are in most cases considerably higher than the existing rates.

As illustrations of this may be mentioned the increases of rates of duty on prepared beef, which amount to 252 per cent under the new autonomous and 105 per cent under the new conventional tariffs, as compared with the existing tariff; cycles, with the respective increases of duty of 525 per cent and 315 per cent; flour, 158 per cent and 40 per cent, etc.

In the event of a tariff war section 10 of the new German tariff law authorizes the Government to impose surtaxes in addition to the autonomous rates, as follows:

"SEC. 10. Dutiable goods proceeding from States that treat German ships or products less favorably than those of other nations may, without prejudice to the tariff duties, be burdened with a surtax ranging up to 100 per cent of the tariff duty imposed on such goods, or even with a surtax equivalent to the total value of the goods themselves. Goods free of duty in virtue of the tariff may, under the same conditions, be taxed with a duty not exceeding 50 per cent ad valorem."

EFFECTS OF THE NEW TREATIES.

Mr. Bernstein, a member of the German National House of Representatives, recently addressed a large public meeting at Frankfort-on-the-Main. The gentleman declared that the new commercial treaties will have a very injurious effect on Germany's manufacturing and export trade. The working class particularly will suffer, as their

opportunities for employment will be diminished by the transplanting of many German manufacturing works to foreign countries, as they will not be able to export to these countries profitably, owing to the increased duties under the tariff schedules of the new treaties. Reduction of the wage scale, increase in the cost of living, consequent diminution of consumption, and lack of employment will occur when the new treaties are in operation.

Mr. Bernstein calculated that the increased cost of bread for a family of five persons will be $14 per annum under the new tariff law, a heavy burden when one considers the low wages and the prospectively reduced earnings of the laboring people of Germany. The speaker favored the making of a commercial treaty with the United States if the latter is willing. "We can not, however, force them to do so," he said. "To engage in a tariff war with the United States would be assuming a fearful responsibility, even when account is taken only of the 500,000 operatives employed in Germany's cotton textile industries."

Press accounts have already reported various cases of German manufacturers removing their plants to Austria and Switzerland, or establishing branch factories there. This morning's paper announces the projected removal to Bohemia of the largest metal-ware factory in Saxony, which at present employs 600 operatives.

CANADA.

NATURAL CONDITIONS FAVOR THE UNITED STATES.

Consul Swalm, writing from Southampton, England, sends a suggestive report concerning Canada's preferential tariff, clipped from the financial supplement of the London Times. It says: "Canada has imposed a retaliatory surtax of 33⅓ per cent upon imports from Germany and preferential rates of 33⅓ per cent in favor of Great Britain and its colonies. All the rest of the world has to pay regular rates." Continuing, the consul writes:

Of Canada's imports 42 per cent enter free of duty. As it is only upon dutiable goods that the surtax, regular and preferential rates, can be laid, a consideration of these is called for. Of these the United States furnished about 40 per cent in 1893 and a little more than 50 per cent in 1904, while the share of Great Britain fell off from 45 per cent in 1893 to a little more than 30 per cent in 1904. It is interesting to note that since 1897, the last year before preferential rates were established, England's share has remained practically the same. In other words, the rapid decline in its exports to Canada, indicated by 45 per cent in 1893 and by 30 per cent in 1897, was checked. All other countries show a slight gain from between 10 and 15 to 20 per cent. Thus preferential rules have partially done that for which they were established—helped Great Britain and its colonies.

Discussing the contest for Canadian trade, the London Times, in a a recent issue, said:

The fight for the markets of Canada is between Great Britain and the United States, with preferential rates favoring the former, natural

conditions, particularly geographical proximity with a 3,000-mile boundary line with all that that means, favoring the latter. Only exceptional ability, superiority of goods, etc., can succeed in wresting from the United States any of the trade gained.

GREAT BRITAIN VS. THE UNITED STATES.

It is not on dutiable goods alone, however, that a just comparison is to be made. Great Britain is handicapped in many lines by natural conditions. Living animals, fish, breadstuffs, provisions, coffee, tea, sugar, molasses, vegetables, baking powder, green, ripe, and dried fruits, nuts, grease, plants, trees, seeds, fertilizers, petroleum, paraffine, fish oils, turpentine, marble, slate, coal, grasses, wooden ware of all kinds are not in the list of goods in which Great Britain is ever likely to be able to compete with the United States and others. This list, says the Times, is too short rather than too long. What remains is distinctly competitive; and in these Great Britain has more than 30 per cent. Last year its share was 41.73 per cent. Eliminating the articles enumerated above as noncompetitive, from the British point of view, and the two rivals will be found running neck and neck from about $30,000,000 each, in 1900, to points between $40,000,000 and $50,000,000 in 1904.

CASES FAVORABLE TO GREAT BRITAIN.

Digging down into the details of the trade tables, one finds the two great rivals, Great Britain and the United States, occupying the positions indicated by 30 and 50 per cent, respectively. In some lines the mother country has been manifestly favored. These are in manufactures of wool, cotton, linen, flax, leather, glass, carpets, curtains, cordage, jams, confectionery, gunpowder, and earthenware. If Canada's importations in these lines are picked out, the showing is decidedly in favor of Great Britain. In these lines it advanced 131 per cent in the years 1897–1904, while the increase for the United States in these lines was only 52 per cent. The increase in actual value of these imports from Great Britain, says the Times, was about seven times that of corresponding imports from the United States. Put in the form of figures, Great Britain's share in Canada's imports in the lines enumerated, viz, manufactures of wool, cotton, linen, flax, leather, glass, etc., advanced from $12,000,000 in 1895 to about $24,000,000 in 1904, while the share of the United States increased from $3,000,000 to a ittle more than $5,000,000.

WHERE PREFERENTIAL FAILED.

The above only partly covers the field. In other lines, where the preferential rates were expected to do great things, they failed. In silks, gloves, mitts, perfumery, brass and copper goods, in electrical, optical, mathematical, photographic and musical instruments, clocks, paints, colors, varnishes, aerated and mineral waters the failure is certain. In these lines Great Britain either was not willing or able to take advantage of the opportunities offered by preferential rates. The Times thinks the failure is based upon Great Britain allowing foreigners to surpass it in the novelty of designs, efficiency of construction, economy of manufacture, and selling enterprise. In these last-

named lines, silks, gloves, mitts, etc., the United States advanced from a little less than $1,500,000 in 1895 to $5,000,000 in 1904, while Great Britain fluctuated around $2,500,000.

DUTY ON WHITE LEAD.

Vice-Consul-General Gorman, of Montreal, reports a new tariff regulation regarding the admission of white lead into Canada. He writes:

The Canadian government has made known to the paint manufacturers of Canada that their requests with regard to the increased tariff on imports of dry white lead have been granted, and that all white lead coming into Canada up to September 15 next will come in at the old tariff of 5 per cent, provided it was ordered previous to July 6, the date on which the new tariff of 30 per cent was established.

The new tariff was made in response to an appeal from the recently organized Carter White Lead Company, which is preparing to manufacture in Montreal. Representatives of this company approached the government and pointed out that there were no manufactures of white lead in Canada, and that provided they could have a sufficiently protective tariff they would set up a manufactory in Montreal. Consequently, on July 6, an order in council was issued raising the tariff from 5 to 30 per cent.

Paint manufacturers, when this increase became known, were much perturbed. Many of them had large shipments of lead on the way, and the increase in the tariff meant a serious expenditure of money. The manufacturers impressed this upon the government, but at first without avail. Finally the minister of finance agreed to accept such shipments as had been ordered previous to the date of the increase, provided the said shipments had also been sold here previous to that date.

This made the situation but very little better for many of the manufacturers who had purchased for their own use, and overtures were again made to the government, with the result that a few days ago the announcement was made that the stipulation respecting the selling of the lead would be removed and that all shipments ordered before July 6 would come at the old rate of 5 per cent. This will mean the saving of many dollars to the paint people.

The imports of dry white and red lead, orange mineral, and zinc white for the year ending June 30, 1904, were upward of 17,000,000 pounds, valued at $666,365. Of this amount there was imported from the United States 7,617,000 pounds, Germany 5,173,000 pounds, and the United Kingdom 3,494,000 pounds.

The increase of duty on white lead will naturally affect the importations into Canada of paints, which amounted during the year ended June 30, 1904, to 9,338,446 pounds, valued at $451,481, of which amount 6,278,492 pounds, valued at $290,130, came from the United States.

THE TARIFF COMMISSION.

It has been officially announced that the committee of ministers who are to inquire into the operation of the customs tariff, with a view to some revision at the next session of Parliament, will enter upon their work about the end of August or the beginning of September. They have not yet decided upon the dates of sittings for any particular place,

but a programme for the earlier part of the inquiry will shortly be announced. In the meantime the ministers desire that all parties interested in the matter and wishing to be heard before the committee shall at once prepare such information as they intend to submit and select representatives who are to appear. All communications respecting the inquiry should be directed to Mr. John Bain, assistant commissioner of customs, Ottawa, who is to act as secretary.

PROTECTIVE TARIFF ADVOCATED.

The Canadian Manufacturer, commenting editorially on an interview between Mr. George, president of the Canadian Manufacturers' Association, and members of the British Government, particularly the prime minister and the chancellor of the exchequer, in which Mr. George assured the British statesmen that Canada did not contemplate asking for a protective tariff against the United Kingdom, etc., says:

"If there is anything that Canadian manufacturers generally or in any other way dream of and hope for, and are determined to have, if possible, it is a protective tariff against the United Kingdom as well as against all other countries. There may be a preferential tariff in favor of British merchandise, but the protective feature must be there."

EVASION OF DUTIES.

Consul-General Holloway writes from Halifax that a number of the members of the Canadian Association of Manufacturers have been complaining from time to time that goods of German, French, and other foreign origin were being imported into Canada from Great Britain, and thereby defeating the objects of both the dumping clause and the preferential tariff. As a partial remedy it is recommended that the government should extend its system of customs inspectors by appointing one or more to the United Kingdom, these inspectors to have similar duties to the inspectors now located in New York and elsewhere.

NICARAGUA.

SPECIAL DUTIES LEVIED FOR PUBLIC INSTRUCTION.

Consul Ryder, of San Juan del Norte, furnishes the following decree by the President of Nicaragua, establishing a revenue for public instruction. The rates given are in centavos based on the kilo:

Considering the law of October 22, 1904, which provided a special revenue, designed for the maintenance of public instruction in the country, has been found difficult of application, particularly with reference to the establishment of a land tax; and whereas it becomes necessary to annul the same, providing at the same time for the creation of a revenue in place of that fixed by the above law; therefore it is decreed:

ARTICLE 1. To establish the following tariff of duties on the importation of articles mentioned below, which have heretofore been on the free list:

Barbed fencing wire, .01.

Cisterns and iron tanks for water, .05.

Roman and Portland cement, .02.
Iron piping and faucets, .02.
Lumber for building purposes, manufactured and unmanufactured. 2 pesos per thousand feet.

ART. 2. To increase the present duties on the following articles:
Cocoanut and "coyol" oil, .10.
Crude mineral oils, .02.
Perfumed toilet waters, .20.
Sugar, raw and refined, .15.
Empty barrels, .25.
Iron bars, round and octagonal, .03.
Pottery, .04.
Cable and rigging made of vegetable fiber, .06.
Cordage made of vegetable fiber, .10.
Hemp, agave, or henequen fiber, .03.
Beer, .04.
Ordinary galvanized staples, .03.
Pilot bread and soda crackers, .05.
Laundry soap, .01.
Timber in the rough, .03.
Furniture manufactured of wood, .20.
Hay or forage for animals, .01.
Sacks or bags made of jute or hemp, .03.
Candles, sperm, .05.
Wines, sweet, not above 20, bottled, or in bulk, .15.
Wines, dry, not above 20, bottled, .12; in bulk, .20.
Cognac, bottled, 1 centavo per centiliter alcoholic strength.
Whisky up to 30 and whisky above 30, 1 centavo per centiliter alcoholic strength.
Hats, boots and shoes of all kinds, 20 per cent increase on the present tariff.

ART. 3. The revenue produced by the application of this law is to be used exclusively for the maintenance of public instruction.

ART. 4. The law of October 22, 1904, referred to in the foregoing preamble, and the Government decrees of December 29, 1904, and March 31, 1905, relating thereto are hereby annulled.

FOOD PRODUCTS ADMITTED FREE.

Under a Presidential decree, corn, beans, and rice entered at ports on the Pacific are placed upon the free list between June 3 and December 31, 1905. This was done for the reason that in the interior of Nicaragua there has been a failure of these crops, prices having advanced 300 per cent. American corn is selling at $2.94 gold and native corn at $2.24. These three staples are the principal articles of food in the Republic and are quoted as follows:

Beans, red	per 350 pounds	$10.76
Corn, American	per 288 pounds	8.46
Corn, native	do	6.46
Rice, native	per 100 pounds	5.07
Rice, Asiatic	do	5.38

These products entering Bluefields, Cape Gracias a Dios, must pay the regular tariff. The following is the decree issued by the President, dated at Nicaragua June 30:

"Considering that the present scarcity of grains in this country has

caused an inevitable advance in the price of these staples, some of which are of absolute necessity, and that it is the duty of the Government to take steps to alleviate the conditions of the people;

"Therefore, making use of his powers, the President of the Republic decrees:

"From the date of publication of the present law in the Diario Oficial and until December 31 of the present year, corn, beans, and rice may be imported into this Republic free of duty. The Atlantic coast, however, is excepted from the benefits of this order."

Consul Ryder also writes that by national decree proclaimed in Bluefields June 29, and effective from that date, the "Bodega de Revision," established April 26, 1904, has been abolished, and that in its stead an additional 5 per cent on export and import duties is now collected at the custom-house at the Bluff.

PAYMENT OF DUTIES.

The following decree regulates the payment of duties:

ARTICLE 1. The payment of import duties shall be made in the following manner: For every 100 pesos of tariff duty there shall be paid 240 pesos in national paper money or its equivalent in silver coin at 50 per cent (50 silver pesos per 100 pesos, paper), or in gold at 20 per cent ($20, gold, per 100 pesos, paper), which includes the increase of 100 per cent decreed in a former law.

ART. 2. The export duties payable in gold and which are now being collected at the rate of 630 per cent in national paper money (6.30 pesos, paper, per dollar, gold), shall continue to be collected in this currency, or in gold at the rate of 1 peso (dollar) to every 5 (pesos) in paper currency, or at 20 per cent ($20, gold, per 100 pesos, paper).

ART. 3. On the Atlantic coast the duties shall continue to be collected as heretofore.

ART. 4. The present decree becomes operative upon its publication.

COLOMBIA.

NEW RATES OF DUTIES ESTABLISHED.

Consul-General Snyder furnishes a decree recently issued by the Government of Colombia in regard to import duties, as follows:

ARTICLE I. The foreign merchandise enumerated below will pay, on its entry into national territory, the following gross weight duties per kilogram:

	Gold.
Printed books	0.01
Flour	.01
Vermicelli and other pastes	.15
Aniseed	.15
Manufactured stearin	.10
Unmanufactured stearin and stearic acid	.01
Spermaceti in candles, etc	.15
Sulphuric acid, saltpeter, muriatic acid	.01
Petroleum and gasoline, for motor, not lighting, power	.01
Refined petroleum, for lighting	.05
Graphite and black lead	.03

	Gold.
Dynamos	0.03
Quicksilver, for mines	.01
Lead, in ingots, for mines	.01
Wool, jute, and hemp, in yarn	.03
White and colored cotton threads	.05
Silk in any form	1.50
Dry alcoholic wines, in pipes, barrels, or bottles	.20
Bone in powder, chalk, feldspar, silica, masicot, kaolin, and other raw materials for the manufacture of crockery	.01
Brick and paving stones of burnt clay and stone or cement	.01
Tiles and paving stones of marble, jasper, or any other natural stone	.01
Natural or artificial mineral waters, such as vichy, etc	.01
Concentrated molasses	.02

ART. 2. Pine resin, caustic soda and potash, neutral silicates, oil substances for the manufacture of soap, unmanufactured stearine, or stearic acid, gasoline and petroleum (raw) for combustion, and mineral coal, so long as coal mines are not being exploited on the Atlantic and Pacific coasts, are included in article 5 of decree No. 15 of the 27th of January last.

ART. 3. Printed books will have a rebate of 50 per cent on the consular invoice duties.

REDUCTION ON FOODSTUFFS.

A later decree relates to foodstuffs and provides for temporary reduction of duties. The decree follows:

ARTICLE 1. From the date of the publication of the present decree in the Diario Oficial the customs duties on flour, barley, grain, rice, and lard will be reduced by 50 per cent.

To protect the agriculture of the country, this reduction will be suspended as soon as the abnormal scarcity and want of these provisions in the country—which has been caused by lack of rain—shall have disappeared.

ART. 2. The decree that, in the future, shall reestablish the ordinary duties on the said articles shall not take effect until thirty days after its publication in the Diario Oficial, so that the merchants may draw up their orders with a full knowledge of the duties payable.

ART. 3. The reduction of duties referred to in the present decree will be limited to imports through the ports of Cartagena, Barranquilla, and Cúcuta.

FLUVIAL TAX INCREASED.

Mr. Alban G. Snyder, secretary of legation at Bogota, furnishes the following decree, fixing the fluvial tax on the Magdalena River:

ARTICLE 1. From the 1st of June next the fluvial tax, collected for the cleaning and dredging of the Magdalena River, will be augmented to $2 gold per ton on imports and $1.50 gold on exports, with the exception of coffee, which will only pay $1 per ton.

ART. 2. The articles at present exempted from the payment of the tax will be taxed from now on, with the exception of foodstuffs produced in the country and descending the river.

MEXICO.

TARIFF OF CONSULAR FEES.

Following is the tariff of consular fees in force in Mexico:

I. For the certification of a manifest not included in paragraph II:	
A. If vessel carries merchandise for Mexico	$20.00
B. If the vessel sails in ballast	8.00
II. For the certification of the manifest of a vessel of less than 50 tons, gross tonnage, and bound from British Honduras to the Territory of Quintana Roo, exclusively:	
A. If the vessel carries merchandise	4.00
B. If in ballast	2.00
III. For the certification of each set of consular invoices:	
A. If the value of the merchandise covered by the invoice does not exceed the sum of $100, Mexican currency, or its equivalent	2.00
B. If the value exceeds $100 but not $500	4.00
C. If the value exceeds $500 but not $1,000	6.00
D. All in excess of the value mentioned in the previous paragraph, for every $1,000 or fraction thereof	2.00
E. In case an invoice is presented for certification after two days have elapsed from the sailing of a vessel carrying merchandise	Double fees.
F. The certification of a consular invoice covering Mexican coin, in pieces of 1 peso each, is subject to the fee charged for any other merchandise.	
G. The certification of consular invoices covering any other legal coin, silver or gold, Mexican or foreign, or banknotes in circulation from Mexican banks established in accordance with the banking laws, and when such invoices do not include other merchandise	Free.
IV. For any kind of a certificate issued to the captain of a vessel, or shippers of merchandise	4.00
V. Duplicates, triplicates, etc., of the certificates referred to in the preceding paragraph, each extra copy	2.00
VI. For the certification of each set of declarations relative to the changes that may have been made in a manifest after its authentication	4.00
VII. For the certification of each set of declarations relative to errors noted by the shippers after authentication of invoice	4.00

Fees are payable in cash and in coin of the country in which consuls or consular agents may reside. The treasury publishes an official table of equivalents of the monetary unit of Mexico—the peso—to establish its value in coins of foreign countries.

PORTUGAL.

THE NEW RATE ON MAIZE.

Minister Bryan, writing from Lisbon, Portugal, sends a translation of a decree of the Portuguese Government regulating the importation of foreign maize or corn. After referring to a former regulation, the King determines as follows:

ARTICLE 1. The importation of 75,000,000 kilos of foreign maize is authorized to be used exclusively in the Kingdom, the payment of duty being 6 reis (equal to 6 mills) per 2.2 pounds.

The importation of the amount of maize, of which this article treats,

will only be permitted from the date of publication of the decree up to the 15th of August, and the maize shall not be sold except at the normal rates within the terms of article 7 of the decree.

Any application of the maize to which article 1 refers other than that which is laid down, and also any transgression of the closing part of the preceding paragraph, shall be punished with the penalties which apply to them within the terms of article 8 and the paragraph of said decree.

TURKEY.

DUTIES ON FOOD PRODUCTS.

Consul-General Dickinson, of Constantinople, reports the promulgation of a new law concerning the examination of food products imported into Turkey. The consul-general says:

Article 20 of the new law, which replaces Article XV of the old law, may be of immediate interest to the exporters of American flour. Flour was previously required to contain a minimum of 9 per cent gluten and to show an elasticity under the Boland instrument of at least 25°. In the new law all requirements in regard to elasticity are omitted and the minimum of gluten is reduced to 6 per cent.

Article 20 reads as follows:

"The entry of flours which after the inspection in custom-house shall be found to contain plaster, sulphate of baryta, chalk, talc, or crude magnesia, and of those which do not contain a minimum of 6 per cent of gluten will not be authorized. These flours shall be reshipped."

GREECE.

DUTY ON WHEAT INCREASED.

Mr. Charles S. Wilson, secretary of legation at Athens, Greece, has informed the State Department that on July 26 the prime minister presented the budget for 1905 to the Chamber of Deputies. According to the figures given the receipts are estimated at $24,063,153 and the expenses at $22,732,657, leaving a surplus of $1,330,499.

A large portion of this surplus will be obtained by a tax imposed upon the wheat imported into Greece. Mr. Rhally has presented a bill to Parliament, by which the tax on foreign wheat is increased by 2 lepta per oke, making the total tax 8 lepta (about 1½ cents) per oke (1 oke, roughly, one-fourth bushel). This new tax is strongly advocated, not only because it will increase the revenues, but also because it will encourage a national industry. Wheat is one of the most important products of the Province of Thessaly, where about 200,000 acres are given up to its cultivation, producing from 2,500,000 to 4,000,000 bushels, or from 12 to 20 bushels per acre, according as the year is good or bad.

The wheat from Thessaly is not considered as of such good quality as that which is imported, chiefly from Russia, but it is claimed that the increased tax will cause a much greater demand for native wheat and encourage further production, as it is stated that under favorable conditions Thessaly could add 2,000,000 or 3,000,000 bushels to its crop. This bill, in spite of some opposition from the wheat merchants at Piræus, has already had its second reading, and seems certain to become a law.

Mr. Rhally also proposes other changes in the tariff by increasing, among other things, the duties on rice, paper, bicycles, automobiles, and cordage. It is expected that the budget will be passed by the end of this week and the present session of Parliament dissolved.

The currant convention has passed its second reading by a large majority and, in spite of opposition in some parts of the country, will undoubtedly be adopted within a few days.

RUSSIA.

ERRONEOUS REPORT CORRECTED.

The Journal, St. Petersburg's official paper, published the following information concerning the new Russian conventional tariff:

In view of reports circulating among grain merchants, to the effect that new tariff duties are to be introduced after next September in the trade treaty between Russia and Germany, we are authorized to say that these reports are without foundation in fact. The new treaty will not go into effect before February 16, 1906. This date has been fixed by the contracting powers and can not be changed. The treaties now being negotiated, in which tariff changes are also to be introduced, notably Russia's treaties with France and Austria, will not go into effect before that time—February 16, 1906.

REMOVAL OF RETALIATORY DUTIES.

According to a dispatch sent from St. Petersburg July 31, negotiations for the settlement of Russo-American tariff difficulties are advancing steadily. Russia is willing to withdraw the retaliatory duties on American machinery, etc., which weigh hard on Russian industry and agriculture, and only seeks acknowledgment of the exceptional nature of the retaliatory duties imposed by her on sugar, American exports of which are not apt to become an important commercial factor.

Certificates of origin necessarily exacted on machinery imported from other countries is also a burdensome formality, and M. Witte, who was minister of finance when the duties were imposed, and who was consulted before leaving for the United States, agreed as to the advisability of settling the dispute.

The minister of finance hopes to be able to arrange a readjustment and to interchange notes on the matter without having recourse to a commission, and the wish is frankly expressed that a settlement might be arrived at in time to be announced during the peace negotiations.

The principal prospect of delay lies in the desire to submit the revision to M. Witte for his formal approval, as a matter of courtesy, showing how strongly his political star is in the ascendant in Russia to-day.

SWITZERLAND.

LOWER RATES FOR AMERICAN PRODUCTS.

Consul-General Guenther, of Frankfort, Germany, writes that the Swiss Diet has decided to allow, from January 1, 1906, goods from the United States to entry under the rates of the Swiss treaty tariff. Hitherto many of the products of the United States were only admitted upon paying the customs rates of the Swiss general tariff, which rates were much higher. This new departure secures to United States products the most-favored-nation clause. The action was no doubt induced by the conviction that the loss of the United States market for Swiss manufactures could not be made up and would injuriously affect Switzerland's economic life.

SOUTH AFRICA.

INCREASED TARIFF ON LEATHER.

Consul Halstead, in a dispatch from Birmingham, England, refers to a resolution of the Walsall chamber of commerce, instructing the secretary to address a strongly worded communication to the agent-general in London for Cape Colony, South Africa, protesting against the proposed 7½ to 25 per cent increase of the duties on leather and leather goods, which a select committee appointed by the government of Cape Colony has recommended as desirable in protection of the industry of the colony. An increase on leather goods, the select committee of Cape Colony hold, would be justifiable, owing to the fact that the number of men employed in this industry in South Africa has diminished considerably. Mr. Leckie, a member of the council, when proposing the resolution, said that an increase in duty would very seriously injure Walsall trade. The last five years the exports of saddlery and harness from Great Britain to South Africa had averaged, he said, about $827,305 per annum—in fact one-third of the total British exports of harness went to South Africa. The diminution in the numbers employed in the leather trade of South Africa could be explained by the severe trade depression which had existed generally, and statistics would show an even more serious state of things in Walsall. In Walsall, he said, there were ten to fifteen times as many people employed in making leather goods for South Africa as were engaged in that industry in the whole of the colony. He held that the chamber should point out that if the colony went in for a protective policy the blow would be aimed not at the foreigner, but at Great Britain.

MEXICAN FREE ZONE.

REASONS FOR ABOLITION AND BENEFITS EXPECTED TO FOLLOW.

Consul Griffith, of Matamoros, furnishes a timely and instructive report on the Free Zone so long recognized by Mexico and the United States, the reasons that led to its establishment, and the causes that prompted its abolition, which occurred July 1, through a proclamation of President Diaz, issued by virtue of a law enacted May 24, 1904. Consul Griffith writes:

Years ago, before Mexico had attained her present standard of prosperity, on account of inadequate transportation facilities, the isolated towns along the border were at a decided commercial disadvantage. The possibilities of being absorbed into the activities of her friendly but more vigorous American neighbors became a serious question. In order to obviate this and encourage population on the Mexican side of the border by securing for the inhabitants cheap necessaries of life and as an incentive to the establishment of new industries, the Government created the Zona Libre or Free Zone.

This occurred in the year 1851, after Mexico had lost Texas, and was intended for Matamoros alone, as this was the principal city of the border and most important port of Mexico at that time. Later, the Free Zone was extended to Bagdad, at the mouth of the Rio Grande, then to Laredo, and about 1880 to Juarez, which was then called Paso del Norte. At the time of its abolition, however, it included a strip of territory about 20 kilometers in width, extending from the Gulf of Mexico along the contour of the Rio Grande and the New Mexico and Arizona frontiers, and ended at Tijuila, on the coast of Lower California. At first all goods from foreign countries were imported into this designated territory free of duty, but at the time of its abolishment about 11 per cent of the full duties were required to be paid.

OPPORTUNITIES FOR SMUGGLING.

The advantages and benefits from the Free Zone since its creation have always been a subject for animated discussion by both Americans and Mexicans. As the importer located within this zone received all his goods practically free of duty, merchants in the interior frequently charged that they were being discriminated against and, furthermore, that it offered every inducement to the lawless element to evade the customs laws of Mexico and to clandestinely transport goods into the interior. The American merchants, on the other hand, contended that it operated against their legitimate interests, inasmuch as it created a very wide range of articles which could be smuggled back into the United States. From 1861 to 1875 the trade of Matamoros was thus developed at the expense of the American side. Since that time, the revolutions and insecurity attending business here, aided by the lower import duties levied in the United States on many European goods, and the constantly increasing demand for goods of American make, have enabled the American merchants to gradually recover a great deal of the business of the frontier. The lighter taxation on the American side, as compared with that of this side, is also a noteworthy factor. Notwithstanding the fact that the American side of the border has experienced a steady growth both in population and

trade even with the Free Zone in existence, the vigilance of the United States customs officials and records of the Federal courts show that the residents of that side, up to the time of the abolition of the Free Zone, had not entirely lost their taste for various articles which paid high duties in the United States and were admitted free into Mexico.

DECREE OF PRESIDENT DIAZ.

The consul furnishes a copy of the proclamation of President Diaz in which the history of the zone is outlined together with the reasons for issuing the decree. Following is the proclamation:

I. That the then existing isolation of the people of the northern frontier of the Republic, in the past years, having caused the issuance in their favor of the special exemption of a Free Zone.

II. That the cause having ceased to exist since the construction of the various lines of railway, among them the one from Monterey to Matamoros, recently inaugurated, placing the said towns in communication with the most important towns of the rest of the country, thus permitting of the easy transportation of domestic goods to the frontier points, where they are mostly consumed, and permitting of the sale of same at prices paid for similar goods of foreign origin.

III. That, as those articles are not produced or manufactured in the Republic, it should be observed that the prices at which they are sold within the Free Zone are not, as a rule, any lower than the prices at which they can be had in the rest of the country, which demonstrates that the special exemption does not always redound to the benefit of the consumers resident in the zone, nor does it therefore respond to the principal intent of the legislator who made the decree.

IV. That if it be true that the natural and industrial products of the interior of the Republic are benefited by the advantage of railway transportation to reach the Free Zone, it is no less the fact that articles produced or manufactured in the zone are favored or benefited, upon being interned to the rest of the country, by the discontinuance of the very regulations made necessary for the protection of the federal revenue, which regulations, in many instances, interfered to such an extent as to be practically prohibitory.

THE FREE ZONE AN OBSTRUCTION.

V. That the experience acquired by the long period of time in which this special exemption of the Free Zone has been in force permits of the conclusion that the said special exemption has been ineffectual in the formation of large centers of population, and sanctions the belief that far from favoring or aiding the development and the wealth of that section of the country it has been an obstacle. Since the abnormal condition in which the zone is now placed obstructs the free circulation of its products and consequently retards the development of its natural resources and prevents the creation therein of remunerative industries.

VI. That the majority of the laboring class, and also large numbers of the farmers and cattle raisers residing in the Free Zone, realizing and being convinced of the necessity for the removal of the existing régime, which is prejudicial to them, have repeatedly petitioned for the abolition of the special exemption.

VII. That if circumstances prescribe at times the necessity for granting concessions in the matter of taxation or the making of a special

privilege in favor of a certain region of the Republic, it is the duty of the Government, as soon as there is a change of conditions, to withdraw such privileges in order to reestablish conditions of equality to all the people of the country.

VIII. That, finally, it is equitable to provide against the damages that might be caused to importers if by the suppression of the special privilege they were forced to annul operations bargained for and based upon the law of the land at the time of the contract or if they were forced to carry out such contracts at a certain loss.

I have therefore decreed as follows:

First. The Free Zone is abolished, and therefore all merchandise imported for consumption into the places that are actually within the limits of the said zone shall pay, without deductions of any kind, the same duties and imposts provided by law for merchandise destined to the rest of the national territory.

Second. Merchandise of foreign origin already imported, or which may be imported under the terms of this decree, destined for points within the extinguished Free Zone may be interned to the rest of the country without the payment of additional duties, although they may have satisfied 10 per cent of the duties provided for in the tariff on imports.

* * * * * * *

BENEFICIAL RESULTS TO FOLLOW.

As almost every new law in any country is adopted to the detriment and dissatisfaction of a certain number of the inhabitants, so it has resulted in this instance. Some temporary embarrassment is experienced throughout this consular district within the limits of the Free Zone, and it has been the source of some adverse criticism. While it is too soon to confidently assert what the effect of the decree will be, the most intelligent and conservative, some of whom are among those personally affected, are inclined to believe that as business affairs adjust themselves to the new régime the general result will be beneficial and permanent.

The difference of customs duties and the complexity of regulations necessarily involved in any protective method employed in such preferential or partially exempt district, while especially advantageous to many, has been burdensome to others, and it has been contended that such exemption, while apparently favorably discriminative, had its complemental disadvantages, since it tended to discourage the development of agricultural and manufacturing possibilities. Notwithstanding the fact that goods might be imported into the Free Zone from foreign countries at an approximate cost of 11 per cent of the regular duties, it must be remembered that agricultural products and manufactures originating in the Free Zone were required to pay certain customs duties on passing into Mexico beyond its limits. As this part of Mexico is but sparsely inhabited, it afforded a poor market, and the consequent result was that the fertile land along the Rio Grande has been but little developed and the attempts at manufacture are insignificant.

AGRICULTURE WILL BE PROMOTED.

With the unification of duties and with transportation facilities at hand it is reasonable to assume that the extremely rich lands of this

section will be developed to their full capacity, to meet the growing demands from the less favored portions of the interior, and, as the embargo of a discriminating internal duty is raised, many classes of factories should spring up. The land referred to above is peculiarly adapted to the cultivation of rice, sugar cane, and cotton, and its comparative cheapness and the ease with which it can be irrigated render it an unusual proposition, worthy of the most careful and conservative investigation of the prospective planter and investor.

Even under former conditions, when the Matamoros district was unconnected by railway with the interior, from 2,500 to 3,000 bales of cotton per annum were ordinarily raised in this section and hauled in slow ox carts to Monterey, a distance of about 300 miles. Sugar culture suffered the same disadvantages, and although sugar cane grows luxuriantly here and requires planting only at intervals of about seven or eight years, the market has remained so small that little has been done in that direction, the product of the comparatively small area of cane under cultivation being usually converted into alcohol, thus enabling it to be more economically conveyed to a distant market. Practically nothing was done in rice culture, for the same reasons set forth above.

NEW INDUSTRIES INVITED.

In view of these facts that with the development of the rich agricultural resources of the lower Rio Grande, Matamoros, Reynosa, Camargo, and Mier, as well as other towns within this district, would offer unusual advantages for the location of mills and factories and the establishment of new industries, especially when consideration is taken of the plentifulness and cheapness of labor. Not only is labor plentiful and cheap in this district, but it may be stated, after several years' observation of the subject, that Mexican labor is docile and tractable. It is now being proved in other parts of the Republic, for the identical purposes mentioned above, to be peculiarly adaptable and apt.

That the general effect of the abolition of the Free Zone has seriously affected the business of the retail and wholesale merchants who are at present located within its limits, and many of whom are Americans, goes without saying. As a result, prices have advanced proportionately, and the cost of living on the Mexican side has been almost doubled. While many of these merchants are inclined to paint a rather gloomy picture of the future, it should be borne in mind that this decree has materially appreciated the value of their stocks, which, in most instances, is considerable. It may be stated in this connection that some of the Mexicans living along the frontier may migrate to the United States in order to take advantage of the cheaper cost of living.

The economical moment for the abolition of the Free Zone had arrived, chiefly, as the cause of its creation, the isolation of the cities located therein, had ceased toexist. The Government did not precipitate the measure, but acted deliberately only after the most careful investigation and study of all the conditions and interests likely to be involved. It is reasonable to assume that the reform will act as a stimulus, resulting in an unprecedented era of commercial and industrial development along the Rio Grande, and that the most sanguine expectations of the finance department of Mexico may be realized.

PLANS TO EXTEND TRADE.

THE ORIENTAL FIELD.

A PERMANENT AMERICAN EXHIBIT URGED AT SHANGHAI.

Mr. Baruch Cerf, of San Francisco, writes an interesting letter to the Secretary of Commerce and Labor, in which he discusses the methods of advancing commerce in China, and in this connection points out the necessity of conforming to usages and peculiarities pertinent to the oriental character and customs which, he says, are little known to American mercantile bodies. Mr. Cerf explains that the nonexistence of any organization in China through which American commercial bodies, manufacturers, and merchants, or their representatives, can be assisted and advised about the peculiarities of different geographical sections, has been a serious handicap to the advancement of American trade. It is pointed out that, in a country where class distinctions count for so much, and formalities are of vital importance, the mistakes of American representatives who have sought Chinese merchants without proper introduction have been most costly, preventing Americans from meeting the representatives of responsible Chinese firms. The employment of irresponsible and low-class interpreters has resulted in much injury. As a result of his own experience Mr. Cerf declares that there is urgent necessity for providing permanent headquarters in China where American representatives can obtain full information and be properly and promptly directed as to modes of procedure.

With this idea in view, Mr. Cerf writes that he has arranged in China preliminaries for establishing a permanent exhibition at Shanghai, which shall not only be an exhibit, but an active agency for the distribution of information for the benefit of American commerce. He has conferred with prominent Chinese gentlemen of the highest class and repute, representing official and mercantile classes, men who are well versed in the customs and needs of the country, and known to the commercial world at Shanghai. Chinese gentlemen of these classes would become associated with the exhibit and bring an influence of great value in its administration. It is proposed that the enterprise shall be conducted as an exhibit solely. No goods of any description would be sold within the exhibition building nor by anyone connected with it. Mr. Cerf points out that by concentration on these lines

American manufacturers, merchants, and exporters would be able to display their products in a way that would prove interesting to Chinese merchants, and that the small expense would allow any manufacturer to introduce his goods in Chinese markets, whereas under present methods the expense is so heavy as to be almost prohibitive. The plan of exhibit, as outlined by Mr. Cerf, is as follows:

PLANS OUTLINED FOR PERMANENT EXHIBIT.

First. To conduct this exhibit as a permanent commercial and industrial exhibit of American products, a bureau of information for the development of trade opportunities, and the medium of introduction of representatives and their specialties to the trade of China.

A glance at the statistics of our trade exports to China and the limited number of commodities of which this is made up proves the lack of knowledge in China of the extent of our manufactures and products.

The lack of success of representatives has been due solely to the ignorance of existing customs and methods of trade in the Orient, and has deterred them from further attempts to secure that trade.

Second. To keep this exhibit solely for display purposes, and not to allow any goods to be sold or any orders to be taken therein.

This plan will insure equal protection to exhibitors of similar lines.

The reluctance of Chinese merchants to visit sample rooms connected with mercantile houses is due to various causes, among which is his desire to examine and discuss samples in conjunction with his friends, and to use his own judgment, unhindered by an energetic salesman.

Third. To conduct this exhibit free of charge of admission to visitors and arrange it in such a way as to meet with the requirements of Chinese customs and manners.

Too much stress can not be laid upon the necessity of conforming with the niceties of Chinese customs and manners. Social requirements based upon class distinctions are their fundamental principles, and close attention must be paid to their observance in order to gain the friendship from which trade will surely follow.

Fourth. To retain a staff of intelligent and educated employees of the highest class, conversant with the different dialects, who can associate with and explain the different exhibits to officials and merchants of the highest grade—thereby obtaining for American commerce a prestige which is invaluable.

On account of the difference in the dialects of the various sections, and the social requirements of that particular section, none but the highest class of college graduates and holders of degrees would meet these requirements.

Fifth. To retain a staff of educated transcribers for the translation of advertising matter into the Mandarin characters, thereby saving to our exporters many thousands of dollars, which are now wasted because of the translations being written in a dialect read only by the lower classes of one individual province.

The uselessness of having advertising matter transcribed and printed here in the Cantonese dialect would be appreciated were the adver-

tiser to know that when read in Shanghai, Hankau, or Tientsin it reads vastly different and becomes ludicrous in its interpretation.

All merchants of standing are conversant with Mandarin, and for the different sections advertising matter for distribution among the consumers must be transcribed into the dialect peculiar to that section. The loss of a dot or stroke is vital to the character written.

COLORS AND EMBLEMS.

Sixth. To properly distribute and circulate throughout the Empire all advertising matter and to advise exhibitors as to the most effective mode of advertising suitable to that country.

The average printed matter that has been sent to that country is entirely useless for its purpose, the Chinese failing to appreciate that a picture of a woman's head can advertise a sack of flour or a bottle of wine.

Consideration should be given to the fact that certain colors are emblems of bad luck, and care should be taken in using them.

The distribution of advertising matter is made through the Chinese imperial post or by private post. By the former the postage charged is by zones—i. e., railway, steamboat, launch, canoe, and carrier zones—the rates by each being different. Rates by private post are much cheaper.

Seventh. To issue a newspaper or advertising sheet properly transcribed, advertising all exhibits and their uses, to be circulated free of charge among the merchants throughout the Empire.

A sheet devoted to this exhibit and circulated monthly will have a far-reaching effect in drawing attention to the advertised products and their uses.

Eighth. To keep a directory (of which there is none in China) containing the names and addresses of Chinese merchants and the special lines they carry.

At present there are no means of securing the names and addresses of the merchants for the issuance of advertising matter.

This is a serious handicap to the representative on his arrival, leaving him with no knowledge of where to turn or whom to visit for the disposal of his goods.

Ninth. To retain a staff of responsible, educated interpreters and traveling salesmen of high class for the benefit of exhibitors or their representatives. They are indispensable in the conducting of trade and must be of the highest standing, acting, as they do, as factors in the introduction of the representatives.

The employing of interpreters recommended by the native employees of the various hotels—men without standing or responsibility—has been the cause of nonsuccess of many representatives.

Careful attention should be paid to the interpreter, who should be of the greatest intelligence and highest standing, as it is through him that all business is done, and meetings with the heads of the firms depend upon his diplomacy.

ADVICE FOR EXHIBITORS.

Tenth. To advise exhibitors as to changes necessary to make their goods suitable for that market.

This has been a point greatly neglected.

Eleventh. To keep the exhibitors informed of the prices and samples of competitive goods of other countries and of the infringement of their brands by irresponsible merchants, and to assist in their prosecution.

The importance of a knowledge of the goods and prices of foreign competitors can not be overestimated. To have word in time that the market is being flooded with cheap imitations will be of incalculable benefit.

Twelfth. To advise exhibitors of changes in custom duties, shipping, and the opening of new lines of communication into the interior.

The arrangement of specific duties and the almost daily new rulings of the customs precludes the publication of any set duties.

The knowledge of the opening of new treaty ports and the extension of lines of shipping is of vital importance to the exporter.

Thirteenth. To assist exhibitors in the registration of trade-marks, getting patents, and the copyrighting of documents.

The new laws for this purpose as adopted by the Chinese Government call for the filing to be done by a resident, acting as agent for the applicant.

Fourteenth. To assist Chinese merchants and prospective buyers in their correspondence with manufacturers.

This is of great importance to Chinese merchants, enabling them, when there is no agent representing the exhibitor, to get in direct touch with him.

Fifteenth. To gather statistics of imports and exports and to act as a neutral correspondent to exhibitors, furnishing such information as they may require to best serve their interests.

Sixteenth. By conducting such an exhibit, without favoritism or specializing, and in a proper and business-like manner, with all the advantages which money, experience, and knowledge of the language can accord, it is bound to prove of great assistance to commerce and increase the field for American products, working, as it does, as a pioneer to the representative and antagonizing none.

FLOATING EXPOSITION.

AMERICAN PRODUCTS TO BE CARRIED AROUND THE WORLD.

The Export Shipping Company, of New York, advises the Department of Commerce and Labor that the company has decided to adopt a suggestion made by an officer of the Department in an article appearing in the Geographic Magazine in 1901. It is proposed to equip a large steamer and furnish space thereon to American manufacturers to make a display of their products and send them around the world on a 60,000-mile trip, to consume about fifteen months. In answer to numerous inquiries received by the Bureau of Manufactures, the following explanation of the enterprise is offered:

The plan is to allow each person who subscribes for 40 square feet of space or more to display his goods and to send on the steamer a

representative whose duty it will be to see that the exhibit is properly arranged at each port, to meet the merchants and dealers invited to inspect the exhibits, explain the utility and advantages of the goods, quote prices delivered in the country of consumption, terms under which goods are sold, appoint agents, extend the sale of the goods, ascertain what the markets of the country demand, the competition to be met, etc. This representative shall also satisfy himself by a personal investigation that any agent so appointed to represent his principal shall be of good character and financially able to meet his obligations. If the standing of agents is carefully gone into there should be no objection to extending ordinary business credit, and no more risk in doing so than is experienced in granting time payments to domestic customers.

The undertaking is likely to create wide interest in the commercial world, and its progress will be watched keenly by the various trade journals and newspapers, so that every merchant in the countries visited will be familiar with the fact that the exposition is to call at his ports. In these circumstances it will not be a hard matter to induce him to visit the ship. The date of arrival in the ports will be advertised, and all interested will be advised to obtain tickets of admission at the newspaper offices, the chamber of commerce, the American consulate, or at the office of the Export Shipping Company. It is also proposed to print, in the language of each country, a catalogue showing the name of each exhibitor, the name of his representative, the position of the display in the ship, and a full description of the goods exhibited. As in some instances it will not be possible to obtain direct land communication, it will be necessary to bring the visitors off in launches, which will also necessitate serving lunch on the steamer as well as insuring sufficient time for each visitor to examine thoroughly each and every exhibit on the ship. The luncheon should provide a most excellent opportunity for the demonstration of American food products.

ADVANTAGES TO BE GAINED.

All firms participating will be required to conform to reasonable rules, and the representatives on the ship will be afforded opportunity to acquire a knowledge of French, Spanish, and German and are expected to improve it. In this way such representatives will gain knowledge of trade conditions and the ability to answer letters, upon returning home, in the language of the inquiry. If in any cases sufficient sales are not consummated while on the trip to reimburse the participants for their expenditure, at least the seed will be sown in fertile ground, which will bear fruit in years to come. The plan will appeal particularly to firms who already have an export trade and agents in the different countries, as the agents would assuredly be flattered to receive a visit from the representative of the manufacturers, and the opportunity would afford a splendid chance for calling the attention of his customers and others interested to the display, and also allow him to explain on the spot what special facilities or changes in standard goods or manner of putting on sale will lead to an increase in business.

The expense of the trip is to be borne entirely by sale of space on a mutual basis. The available space is 20,000 square feet and the price is fixed at $50 per square foot. The prospectus of the promoters shows in detail the estimated expenses, and the surplus remaining at

the termination of the trip is to be returned to those who participate pro rata. It is expected that the net cost of space will not exceed $35 per square foot of space and $500 for meals and incidental expenses of the representative. This, on a basis of 40 square feet of space, means that the entire cost for traveling expenses and showing samples will be about $5 a day.

The exhibits will be cared for and all necessary janitor service, lighting, and a limited amount of power for working exhibits will be furnished without extra expense. The promoters call attention to the fact that the enterprise is not designed as a money-making plan, but is intended to be a dignified, broad-minded plan to further the cause of America's export trade.

It is desired, and efforts are being made, to have the exposition representative of as many different lines of prominent American manufacturers as possible or practicable, and to have the exhibits arranged in such a manner that the attention of interested merchants in foreign countries will be held and impressed thereby.

The itinerary provides for stops at ports of the most important commercial countries of the world.

CENTER OF MANUFACTURES.

PLANS FOR DIRECT SALES TO FOREIGN DEALERS.

A well-known business man of New York writes the Bureau of Manufactures regarding the methods followed by American manufacturers whose products are shipped abroad. It is represented that for years American manufacturers have intrusted their products to commission houses in this and foreign countries, and that some of them have placed their goods with English commission houses exclusively. The policy of these English commission houses, it is said, is to prevent direct communication between manufacturers and buyers, and in consequence very few American manufacturers have established a direct trade.

Controlling, as they do, in a large measure, the trade of Europe in manufactured products, the English commission houses naturally give preference to their own manufactures. Within the past twelve months export orders have been comparatively small, and some of our largest manufacturers sent agents direct to Europe to learn the reasons for this decline. It was found, as a result of the inquiry, that foreign commission houses, dissatisfied with the rate of commission, had sold American goods under conditions which enabled English and German manufacturers to sell competitive products of their respective countries to the prejudice of the United States.

To remove these obstacles, and with a view of bringing American manufacturers in direct contact with foreign actual buyers, it is proposed to establish in New York an organization under the name "Center of American Manufacturers," which will undertake to sell direct to the actual trade for a commission only. The goods will be sold in the name of the manufacturers, and thus each manufacturer will be brought into direct communication with importers. In this way our manufacturers will learn the actual needs of the various foreign markets, and it is believed that this can not fail to infuse new life into

the export trade. In connection with the "Center of Manufacturers" there will be a responsible fiscal agency to guarantee the credit of foreign buyers, which agency will make an advance of 80 per cent on the net amount of shipments, the remaining 20 per cent to be paid after payment for the goods.

The "Center of Manufacturers" proposes to open offices in commercial centers of every country, and will have expert business men in charge of these agencies. This company will not only sell the goods, but will in every case ascertain the lines which can be sold, and will collect information as to the wants of the various countries. For this service a commission of 7½ per cent is to be charged on the net amount of sales. The organization has not been perfected. It is stated, however, that an organization will be accomplished in a short time, and that announcement of the names of the president and directors connected with the undertaking will be a guaranty for efficient and faithful execution of the business in all its details.

HULL'S TRADE WITH AMERICA.

Consul Hamm, of Hull, England, reports that the trade of that port with America consists largely of grain, cured meats, live cattle, lamp and lubricating oils, lard, cheese, hay, timber, and raw cotton in bales. A summary of the articles recently brought over from New York by a liner will serve as a sample cargo. It is as follows:

Seven boxes hams, 100 barrels beef, 75 boxes tongues, 80 barrels lubricating oil, 125 barrels oil, 375 cases catchup, 9 cases plugs, 3 cases machinery, 16 crates spokes, 100 barrels zinc oxide, 4 cases hubs, 244 oars, 25 crates, 40 pails, 5 cases candy, 3 cases machinery, 500 bags sugar, 6 cases machinery, 120 barrels glucose, 1 crate pumps, 25 barrels beef, 2 casks hides, 86 cattle, 51 bales paper stock, 5 packages moldings, 1 case retort, 11 coils old rope, 39 empties, 125 barrels ochre, 1,418 pieces walnut, 1 roll cotton duck, 100 bundles ixtle, 1,542 barrels lubricating oil, 10,153 packets lard, 687 packages bacon, 1,113 packages cheese, 1,069 bundles, 1,046 pieces poplar, 987 bundles hay, 935 pieces oak, 1,956 cases meat, 13,135 packages merchandise, including 450 bales raw cotton.

Hull is evidently losing trade to its rivals, Grimsby and Goole. All three ports are on the Humber River and in the Hull consular district. The total trade of Hull in 1904, including imports and exports, was nearly $10,000,000 less than in 1901. In the same time Grimsby's trade gained over $14,000,000, and Goole's trade about $13,000,000. The gain of the two ports was nearly double the loss of Hull. This condition is the result of the efforts Grimsby and Goole are making to attract trade by establishing new steamship lines and building new docks. The total imports and exports of these three Humber River ports in 1901 were valued at $411,756,485, and in 1904 the same were valued at $429,844,205, an increase of a little over $18,000,000.

According to the annual statement of the British Board of Trade, the commerce of the United Kingdom for the year 1904 was: Imports, $2,681,629,464, and exports, $1,463,410,274.

TRANSPORTATION.

WATERWAYS IN EUROPE.

INCREASE IN CANALS REGARDED AS A PUBLIC NECESSITY.

The London Standard recently contained an article in which the utility of canals was discussed, and in the course of which the progress made in the construction of these waterways in Europe was described. In contemplating the possibilities of railroads the use of canals and need for their further development seemed to have passed away, and general acquiescence was given the demand for their purchase by the railroads. But it was discovered that, with the progress of the times, the capacity of the railways in solving the question of good traffic was limited, and attention was again turned to canals, and this agency for transportation was taken up with renewed vigor and energy. Recounting what has been done in canal construction by European countries the Standard says:

The digging of the great canal across the Isthmus of Suez, a colossal feat of engineering in those days, aroused the world, and set men's minds thinking that perhaps after all the day of canals had not passed away. The new era of affairs on the Continent, brought about by the Franco-Prussian war, proved in a curious way to be an important factor in promoting the use and development of the canal system. On the one hand, France, seemingly crushed by devastating war and the burden of a huge indemnity, set to work to improve the industrial condition of the people. To this end a commission was appointed to inquire into the railways and other means of communication. It followed naturally that it found the canal system of the country neglected and falling into disuse, and at once money was voted for its improvement.

On the other hand, the statesmen of Germany, recognizing that the true greatness and supremacy of a nation come not alone from war and conquest, turned their energies to facilitating the commercial growth of their Empire. Before 1870 canals languished, but by 1875 public opinion was sufficiently educated to understand the necessity for a development of the inland waterways. This feeling was stimulated by the dissatisfaction with the high rates of the State railways, and traders began to avail themselves of the low freights on the then existing waterways. During the ten years, 1890–1899, a sum of £14,950,320 was expended on inland waterways, mainly on the canalization of rivers.

CONSTRUCTION BY GERMANY.

Within the last few weeks a most extensive programme has been sanctioned by the Prussian government, involving an expenditure of £16,728,750. The greater portion of this money is allocated to the building of a canal from the Rhine to the Weser, including the canalization of the Lippe. The waterway from Stettin to Berlin is to be rendered navigable for large vessels, at a cost of two millions, and smaller sums are to be spent on improving the waterway between the Oder and the Vistula, and on the canalization of part of the Oder. This does not mark the end of the canal development. At some future date the canalization of the Moselle-Saar, the connection of Leipzig with Brisa, on the Elbe, and a canal from Schwerin to the Baltic are to be taken in hand. For some years past the Würtemburg government has been studying a scheme to construct a canal from the Rhine, starting at Mainz, utilizing the Neckar, and joining the Danube at Lauingen. By this, goods from the near and far East will be carried at cheap freights from the Black Sea to the North Sea.

The effect of this careful development of canals and natural waterways is apparent in the reduction of the cost of transport by about one-half. The present cost of carriage is now less than 0.25d. per ton per mile. The large number of river and canal boats—22,564 in 1897, as compared with 17,653 in 1877—and the increased utilization of the loading capacity have materially contributed to this reduction. The revenue, which, however, is far from representing even a fair rate of interest on the outlay, is collected from tolls based on the weight and nature of the goods carried. Goods are shipped under a fixed tariff, the rate of which every merchant knows beforehand. The general practice is to leave the navigation of the open river free, while regular charges are made on canals.

THE SYSTEM IN FRANCE.

In France, whose canal system is one of the best in Europe, the practice is different. Practically the whole of the waterways system is the property of the State, which maintains it out of the public funds free of all tolls, thus following the suggestion of the commission of 1872. Since that date the total expenditure on canals amounts to about £100,000,000. In 1901 the details of an exhaustive scheme were published, and in June, 1903, part of it, involving an expenditure of over ten millions was authorized. Most of the money is being spent on improving the navigation of the Garonne, the Orleans, and other canals intended to link Cimbleux to Orleans and Cette and Marseille with the Rhone. The length of canals in France is 3,045 miles, and that of the rivers and streams so used, 4,665 miles.

In a recent report from our consul at Rouen an apt illustration is given of the advantages of water transportation. A button factory, situated on the Canal de Brian, in the Department of the Loire, uses a large quantity of feldspar. This is found in great abundance about 100 miles away from the factory, yet, as there are no canals or waterways connecting the two districts it is found more advantageous to bring feldspar from Norway by sea to Rouen than transfer it directly into lighters and forward it by waterways into the central part of France.

The net cost of transport by water is represented approximately by the freight paid to the barge owners since competition prevents them from making any profit over and above a return on their small capital and their expenses. On the average the freight is about 1 centime per ton per kilometer, as against 6 to 8 centimes by rail.

AUSTRIA, BELGIUM, AND HOLLAND.

Throughout Europe the same active policy is being pursued to develop the use of waterways and canals. Austria-Hungary, in the recent enthusiasm for economic development, voted a credit of £10,500,000 in 1901 for the construction of canals between the Danube and the Oder, and thence to the Elbe and the Vistula. The work is to be accomplished by the year 1914, and then further schemes are to be authorized. In Belgium the splendid system of waterways and canals plays an active part in the commercial and industrial enterprise of the country. The total area of the country is only 11,373 square miles, yet there is the high proportion of 1 mile of waterway to every 8.3 square miles of territory.

The traffic by water has grown enormously, from 250,000,000 mile tons in 1880 to 560,000,000 mile tons in 1900. For centuries Holland has been threaded with artificial waterways, yet since 1862 nearly £17,000,000 has been expended on improvements and extensions. The most important canal constructed has been that connecting the port of Amsterdam with the Rhine. Though the total tonnage using the canal has increased from 1,420,257 tons in 1892 to 4,433,257 tons in 1899, it has not been carried out at the expense of the competing railways, which have considerably increased their traffic. Even in conservative Russia a survey has recently been started for the long talked of Baltic to Black Sea canal.

CANALS COMPLEMENTARY TO RAILWAYS.

It is clear, from the illustrations given here of the rapid growth of the canal system on the Continent, that our commercial rivals recognize the importance and the economy of water transport. This rapid extension is due to the great increase of technical knowledge in connection with river and canal works, to the improved forms of ships, and to better appliances for haulage. Abroad it is comprehended that canals, as a rule, do not compete with railways. On the contrary, a canal is complementary to a railway.

By a natural process of adjustment the railways carry lighter and more valuable materials, which must be conveyed rapidly, while canals carry heavier and less valuable goods, which do not require rapidity of transit. Here in this country the only new scheme carried out to a successful issue during the last thirty years is the Manchester Ship Canal. While other nations have been engaged on comprehensive and intelligent schemes we have simply looked on and expressed our opinions on the subject in vague resolutions. The object lessons are numerous, the benefit of thirty years' experience is at our disposal, and yet nothing has been accomplished toward remedying this grave defect in our economic system.

THE BRUGES SHIP CANAL.

Consul Mowrer, of Ghent, Belgium, writing about the recent opening of the new ship canal connecting Bruges with the North Sea, and of the construction of new docks at Bruges and Zee-Brugge, says:

It is hoped that these improvements will begin a new page in the history and prove the resuscitation of a city which, together with Venice, was the great commercial center of Europe in the fourteenth century. Heretofore the maritime trade of Bruges has been conducted through the port of Ostend, but the communicating canal was too shallow for seagoing vessels. The new canal is about half the length of the Bruges-Ostend Canal. Vessels can move thereon at night. The loading and discharging at the new docks is by modern lifting appliances, and at cheaper rates than at the old docks.

The port improvements at Bruges and the new canal constitute two sections of a threefold scheme, the most important feature of which is still incomplete. This feature is the establishment of a port of call at Zee-Brugge. Here is being constructed a combined pier and breakwater, having a total length of about 2,000 yards, but so curved that the extremity will be parallel with the coast and 930 yards distant from the low-water mark. The sheltered roadstead is about 272 acres in extent. Communication is made with the maritime canal by a lock 66 feet wide and 282 yards in length. The main purpose of this port is to have trans-Atlantic and other steamers call there for express and perishable cargo and passengers when they find it impracticable to steam 60 miles up the Scheldt to Antwerp. Of quay space over 1,000 yards will be available, and it is estimated that from twelve to fifteen of the largest Atlantic liners will, if necessary, obtain accommodation at the port at one time.

The canal has a depth of 26½ feet of water throughout and a width on the water level of 231 feet, sufficient to allow for the passage of two ordinary cargo boats. It runs in a perfectly straight line for a distance of 7 miles to the new docks and warehouses at Bruges.

It is expected that Zee-Brugge will not only become important on account of being the entrance to the ship canal to Bruges, but as a port of call for ships to coal and transship cargo. Time will be saved for the dispatch of cargo to parts of Belgium and Germany, as is the case for channel passengers landing at Ostend. Already the important firms of L'Agence Maritime Gantoise and John P. Best have established agencies at Bruges and the former also at Zee-Brugge.

A SUMMARY OF CANAL CONSTRUCTION.

Consul Harris, of Mannheim, Germany, furnishes information regarding the progress being made in constructing canals in Europe. He writes:

A summary of canal construction in Europe which recently appeared in the London Standard emphasizes the fact that artifical waterways are much in favor on the Continent, and that their further extension is the recognized policy of practically all the Continental States. Figures are given showing how liberally money has been expended by France, Germany, and other countries for this class of improvements, and how important is the part they have performed in the

commercial development of these States, and how prevalent is the sentiment that their further extension is necessary. In Great Britain alone has canal improvement been backward, the Manchester Ship Canal being the only important work of the kind in the past thirty years.

The development of internal waterways in France dates mainly from the period immediately following the Franco-Prussian war. Since then the amount spent for this class of improvements has amounted to approximately $500,000,000. The length of canals in France is stated to be 3,045 miles, and of rivers improved for purposes of navigation 4,665 miles. This network of waterways is practically all owned by the State and is maintained by the State without tolls.

In Germany the construction of internal waterways began about the same time as in France, and was part of the broad movement toward commercial growth to which the war gave a marked impetus. Railway building had caused the canal systems for a time to fall into disuse. Railway freight rates finally drove the manufacturer and shipper to avail himself of the then existing waterways and to urge their improvement. This improvement followed with phenomenal rapidity. During the ten years from 1890 to 1899 nearly $75,000,000 were spent on internal waterways, especially on river improvement. These waterways are of vast importance to the Empire, and are only part of what will eventually form a great inland water system extending into prac tically all parts of the country. Among the new improvements now talked of is a canal joining the Rhine and Weser, the canalization of the Lippe, the improvement of the Oder, the widening and deepening of the waterway from Stettin to Berlin, the union of the upper Danube with the Rhine utilizing the Neckar, the further improvement of the Rhine to Basel, etc.

In Austria-Hungary an expenditure of upward of $50,000,000 was authorized in 1901 for the construction of canals between the Danube and the Oder and thence to the Elbe and the Vistula. Further schemes of waterway improvement are contemplated in the Empire.

Belgium has 1 mile of waterways to every 8.3 square miles of territory. The traffic by water in 1880 was 250,000,000 mile-tons, while in 1900 it had grown to 560,000,000 mile-tons. The Netherlands has long been threaded with artificial waterways. Russia has recently again taken up the matter of a canal connecting the Baltic and Black seas.

As a rule these improvements are not found to be dangerous competitors of the railways but to be complementary to them. By a process of natural adjustment the railways carry certain classes of freight which must be carried rapidly, while the canals carry heavier goods, which do not require rapidity of transit. Manufacturing, agriculture, and mining are stimulated by cheap transportation, and the railways are sure to share in the increased traffic.

COMMERCE OF THE SOO CANAL.

The Bureau of Statistics, Department of Commerce and Labor, reports that commerce through the Sault Ste. Marie canals at Sault Ste. Marie, Mich., and Ontario, Canada, during the month of June totaled 6,057,491 tons, as against a corresponding movement in 1904 of 3,139,236 tons, and in 1903 of 5,105,078 tons. Of the traffic for the sixth month of the current year 5,137,885 tons moved eastward

and 919,606 tons westward, while of the total movement in both directions 5,046,079 tons passed through the United States canal and 1,011,412 tons through the Canadian canal. Among the items prominent in the eastbound movement may be mentioned 4,672,467 tons of iron ore, 3,402,137 bushels of wheat, and 2,708,686 bushels of grain other than wheat. The principal item in the westbound movement consisted of 728,888 net tons of soft coal. During the present season, to and including June 30, 13,133,444 net tons of freight passed through the canals at Sault Ste. Marie, an amount nearly 10,000,000 tons in excess of a similar movement in 1904 and considerably over a million tons heavier than that for 1903. Of the present year's movement 10,995,233 tons represent an eastbound movement and 2,138,211 tons a westbound movement, while of the trade passing in both directions 10,815,299 tons moved through the United States canal and 2,318,145 tons through the canal in Canadian territory.

MOTORS IN QUEENSLAND.

REGULAR LINES FOR GENERAL TRANSPORTATION.

Consular Agent Weatherill, of Brisbane, Queensland, furnishes the annexed interesting article on the establishment of transportation by motor cars over the roads of that country. The enterprise is still in an experimental stage, and what the consular agent says can not fail to interest persons who are engaged in the manufacture of motors.

MOTOR CARS SELECTED FOR AUSTRALIA.

About two years ago Mr. James Trackson, of Messrs. Trackson Brothers, of Brisbane, Queensland, left here for the United States and Europe to seek for the most suitable road transports for freight and passengers for Queensland. Mr. Trackson spent about five months in the United States, four months on the continent of Europe, and several weeks in England, which country, he states, he found ahead of others in this field. The accompanying photograph shows the engine and trailers which have been selected, six sets of which have been brought here from England and more are on the way.

The following routes over which the transports are to be run show the extent of service: Yeulba to St. George, 129 miles; St. George to Dalby, 304 miles; Warwick to Goondiwindi, 120 miles; Miles to Taroom, 105 miles; Cunnamulla to Thargomindah, 142 miles; Ilfracombe to Isisford, 65 miles; Barcaldine to Muttaburra, 92 miles; Longreach to Winton, 125 miles. A service is also to be established from Grafton to Glen Innes, in New South Wales, a distance of 60 miles.

SIZE AND CAPACITY.

One requirement of motor service of this character is good roads. The engine and freight cars have wheels whose tires range from 6 to 12 inches in width. The speed of the motors will be from 8 to 10 miles an hour, and they will have a load-hauling capacity of about 10 tons. The engines will run in pairs, one being equipped with wood-sawing machinery for supplying fuel and also carrying a 30-ton steel hawser, fixed on an emergency drum, to assist in passing creeks and bad places on the road. The exhaust steam will pass into the return boiler tubes to extinguish sparks, so as to minimize risks of grass fires.

An inspection of some of the engines shows that they are strongly made and very compact. They are of the compound type, work with a pressure of 225 pounds of steam, and are provided with filtering, suction, and other apparatus necessary for the class of work for which they are to be used. The gearing is in an inclosed oil tank, into which dust can not penetrate. A derrick is also carried, so that, with the aid of the hawser before mentioned, heavy weights can be easily and quickly handled. Fuel in many districts can be easily obtained, but water, particularly during the summer months, will not be so accessible in the western country. On the routes mapped out, however, water stages of 20 miles have been arranged so that the services can be maintained in times of drought.

After inspecting transports of various motive power, steam, electricity, petrol, etc., Mr. Trackson states that he found that steam would best meet the conditions in Queensland. He informs me that he did not order American-made machines, because they were too lightly built and would not stand the rough roads and wear and tear of the Queensland bush; that until American manufacturers make heavier and more substantial motors they can not compete with the English manufacturers in selling vehicles for the conditions obtaining in the Australian bush.

CHARACTER OF ROADS.

The bush roads in Queensland are commonly very dusty in dry weather and muddy when it is wet, being for the most part over soft ground. The western portions of this State consist mostly of plains of black or red soil. Rainy weather converts the dust into a sticky paste, through which it is impossible to propel any vehicle, because the mud so coats the wheels that they become jammed against the body of the vehicle. I have known of a team of 18 oxen trying to take a light American buggy over one of these black soil plains, but the task proved impossible, because, in addition to the buggy being so clogged with mud as to be almost a solid block, the feet of the oxen became so heavy from the accumulation of sticky soil that they could not move them. When such conditions prevail all traffic must cease until fine weather sets in, when the roads soon dry.

Most bush roads are crossed in many places by what in wet weather may be deep and broad creeks, but which in ordinary weather are dry water courses with banks of varying steepness and different degrees of firmness, from rock or stone to soft mud. It is therefore necessary to have broad tires and strongly built and powerful machinery to cope with the many varieties of road and the difficulties of transport in this State. This is something that I would advise our manufacturers to look into, because if this venture is a success there will no doubt be a large and increasing demand for road transports throughout Australasia.

Another kind of vehicle that is likely to be in demand is a motor coach—a sort of combination engine, luggage van, and passenger van—to run on the narrow gauge (3 feet 6 inches) government railways in Queensland, in place of trains, where traffic is small and trains are running at a loss. It is computed that the present cost per train mile is 30 cents, whereas the estimated cost of a combination motor car would be 10.96 cents. This business is also well worth looking after.

USE OF MOTORS IN ITALY.

Consul Dunning, of Milan, writes that the extent to which motors of various kinds—steam, electric, gas, oil, wind, and hydraulic—are used in Italy is indicated in a report recently issued by the general director of statistics in this country. Italy is so generally associated in the American mind with agriculture, and in rather a small way, that the terms of the report are likely to be a surprise to many readers, while manufacturers in a number of lines will find a hint of opportunities which can be taken better advantage of in the future.

It appears, writes the consul, that in the departments comprising the Kingdom there are 117,407 workshops of various kinds using power under the classifications named above. The importance of the Milan district in manufacturing as well as in agriculture is shown by the statement that in Lombardy there are 17,000 workshops, while the city of Milan alone has 5,287. Of the 1,400,157 persons employed in these workshops throughout the Kingdom, 351,807 are employed in Lombardy alone. Of the Milan factories using power, nearly one-half the number are engaged in the manufacture or preparation of food products.

THE SUPPLY OF POWER.

To supply power for the various branches of industry in Italy there are now in operation 63,599 motors, classed as follows: Hydraulic, 49,699; steam, 8,150; electric, 3,621; gas, oil, and wind, 2,129. The number of steam boilers used is 10,358, of which Lombardy has more than one-fifth, once more indicating the important position of manufacturing in this district. Gas motors in Lombardy number 1,847, with a total horsepower of 64,527. Commercial gas, distinct from illuminating gas, is sold here at a low rate, and is attracting a considerably growing number of manufacturers to its use. Even yet, however, the hydraulic motor has a long lead, there being 10,000 of them in Lombardy, with a total horsepower of 100,000. The opportunity for a steady-going and economical gas motor in northern Italy seems

good, though American makers must expect to compete with Italian mechanics, who are noteworthily clever and who are already producing a gas motor which is attracting much attention in the country.

The electric motor is also coming into more general use in Italy and is beginning to contest with the gas motor a field previously occupied almost exclusively by the hydraulic motor. In Milan more than one firm is turning out electric motors for this very purpose, and American manufacturers will have to meet them on their own ground. In Lombardy—that is, the Milan district—there are already nearly 1,300 electric motors, and the number is constantly growing. Electric power (current) is of first quality here and sold at a comparatively low rate, on account of the sharp competition from gas and water.

RAILWAYS AND EXTENSION.

SAFETY OF BRITISH ROADS—EXTENSIONS IN BELGIUM AND MEXICO.

Interesting statistics regarding the railways of Great Britain are furnished in a report of Consul Mahin, of Nottingham, in which he says:

A recent report shows that in the year 1904 only six passengers were killed by accidents on railways in the United Kingdom, and that 534 were injured. The danger in railway travel in Great Britain appears to be reduced to about the lowest possible minimum. From statistics kept for the past thirty years, ending with 1903, it seems that an average of one passenger was killed in every 35,053,064 journeys and one injured in every 1,100,527 journeys. In 1904 the fatalities were reduced to one in 199,758,000 journeys and the injuries to one in 2,244,472. The risk, however, is even less than these figures, which do not take account of season ticket holders.

Out of a total of 71,007 railway employees, 7 were killed and 114 injured during 1904. The average for the preceding thirty years was 14 and 137, respectively. This comparison shows an extraordinary improvement, for the number of railway employees was much greater in 1904 than the average number in the preceding thirty years.

Improvements in rolling stock, which tend to mitigate the severity of accidents, in construction of roads and in methods of operating trains have steadily increased the safety of railway traveling in Great Britain. But one of the chief causes of Great Britain's low railway accident record is the double tracking of lines. A single track is very exceptional. The rule is double, triple, or quadruple tracks. This obviously reduces to a minimum the possibility of collisions and of accidents from open switches caused by shifting trains on side tracks to wait the passing of nonstop expresses.

At the end of 1904 the total length of railway in the Kingdom was 22,600 miles mostly more than one track. The total number of collisions and derailments in the year was 217. This was the exact average of the preceding twenty four years. On the surface this shows no improvement, but taking the increased railway mileage into account, it appears that in 1904 there was but one accident for every 1,829,327 train miles run, against an average of one for every 1,494,875 miles in the preceding twenty-four years.

PROJECTED BELGIAN-GERMAN LINE.

Consul McNally, of Liege, Belgium, reports on the project to construct a railway line from Stavelot in Belgium to Malmedy in Germany. He says:

The Belgian Administration has asked the Congress to appropriate $10,615,000 for a new railway into Germany via Louvain, St. Trond, and Argenteau. A convention between Belgium and Germany, held at Berlin August 15, 1903, had for its object the building of this as well as a smaller railway connecting Stavelot in Belgium with Malmedy in Germany, for which latter enterprise an appropriation of $308,800 is asked.

The new line will help to meet the close competition of the Dutch railways. Every effort will be put forth not only to make travel as comfortable as possible, but to increase the speed of the trains as far as is consistent with the safety of passengers. It is hoped that the speed will reach 120 miles an hour with the use of modern electrical appliances. With this end in view many new ideas will be adopted in the construction of the road. There will be no grade crossings, the grades will be light, and the radius of every curve will be at least 2,000 yards.

The projected road will not only establish rapid international connections, but will connect central Germany with Antwerp, which is the port of entry into Belgium. This determination of the Government to build a new road into Germany caused some apprehension on the part of the inhabitants of the cities now on the main international line. The Government has announced that it is not its intention to use this road for all international trains, and that the cities of Liege and Verviers will not suffer in consequence. These cities will remain on the route which forms the best line between France and Germany (by Charleroi and Namur).

CONSTRUCTION IN MEXICO.

Consul Canada, of Veracruz, writes that the governor of the State of Veracruz has approved a contract for the construction of a railroad between the municipalities of Orizaba and La Perla in the county of Orizaba. By this contract T. Alfred Kennion is authorized to construct the road with the option of constructing several branches to neighboring points, provided he accepts the conditions imposed within two years. The main line is to be of standard gauge, as also the branch lines with the single exception of the one to Texmala, which may be either narrow or standard gauge. Any motive power may be employed. A telegraph or telephone line is to be established and operated in connection with the road. The contract is for a term of fifty years, at the end of which time the road with all its stations, warehouses, and shops will become the property of the municipality of Orizaba; but the latter must purchase the rolling stock, furniture, tools, and chattels the company employs for the operation of the road. If at that time the municipality should decide to rent the road, the contractor shall have the preference.

PACKING.

AMERICAN METHODS IMPROVING.

A recent issue of the British Trade Review calls attention to the fact that goods going out of the United States into foreign ports are by no means so badly packed as some people would have the public believe. In pointing out existing evils affecting British trade, the Review says:

Sufficient attention is not given to the necessity of packing in a small compass. For transmission to a distant colony this is important, because the smaller the cubic measurement in which the goods can be packed the less is the freight, storage, cartage, wharfage, and sometimes the duty.

American goods, and sometimes German goods, are more closely packed than British goods, without in any way increasing the risk of breakage or damage. Whenever a duty by measurement has been placed on any article in Victoria, it has been found that the Americans, and sometimes the Germans, have proved themselves able to place a greater quantity in a cubic foot than the British. The trade in lamp glasses, bottles, and some other items has been seriously affected by the difference in the closeness of the packing.

A feature of United States packing is the more general practice of making up articles into trade packages—that is, into packages which can be bought and sold in the cases in which they are imported. Clocks, lamps, and many such articles are sent in cases of unvarying size and containing a suitable number of articles for sale to retail shopkeepers, when similar goods from the Continent or from Great Britain would be sent in larger cases of irregular size, designed for no other purpose than to convey the goods to Melbourne. Further, the United States use largely specially prepared pitch paper for lining cases, where the British use metal. The experience in Victoria is that the pitch paper is as effectual in preserving goods as metal, and that it is lighter and more convenient.

In the boxing or "get-up" of small goods the United States manufacturers excel. They use cardboard boxes in numerous instances where the British pack in brown paper parcels, and the United States practice is held to be preferable, for the reason that the box is suitable for placing on the shelves of a shop. As regards the goods which are packed in boxes in Great Britain and the United States, the boxing is nearly always better done in the latter country, the boxes being stronger and more sightly. British goods can commonly be picked out in the stock of a hardware store by the greater number of broken boxes. The excellence of the manila paper and cardboard boxes used in the United States has been a considerable factor in advancing American trade.

PACKING MACHINERY FOR EXPORT.

The American Chamber of Commerce at Paris, which is doing efficient work for the advancement of American trade, issues from time to time bulletins in furtherance of this object. Mr. Paul Roux,

a member of that body, prepared a paper entitled, "The packing of machinery for export," which the chamber of commerce has printed in pamphlet form. The following notes are taken from the pamphlet, to which attention of American exporters is invited:

In packing goods for export care should be taken to economize space, to avoid breakage and exposure, and to be ready for rough handling. Goods should, if possible, be kept within 40 cubic feet per ton. Projecting parts should be removed and packed separately. They increase space and increase risks of breakage.

The parts should be so marked as to absolutely preclude the possibility of error. Herein will be found more than half the success of securing foreign trade. Not a single piece, no matter how simple, should be packed without its localizing mark. It is impossible to emphasize this point too much. Always dismount all fragile and projecting parts. Leave no delicate parts exposed. Plug up oil holes. Put on the best possible coating. It pays. Be sure to put on enough, particularly on all exposed parts.

Merchants and manufacturers should look carefully into the matter of weights and measures. They mean much in the questions of trade. Rates are often regulated on the weight basis. For example, goods weighing more than 4½ tons pay, as a rule, twice as much as do those under 2 tons. Large and heavy bales increase the costs of loading and unloading. Packing is a science and an art. The making of boxes has been the subject of scientific and mathematical work of the highest kind. Before a box is bought or built the merchant or manufacturer should go carefully into the minutest details as to the character of the box wanted. Care should be taken to permit of easy and efficient examination of the machine or parts packed, even to the admission of a lantern to reveal the parts. For this purpose it is a good plan to fasten one side of the case with screws, usually the side that permits of the best examination. Care should be taken in lining, or not lining, with paper, sheet tin, etc. Here questions of atmospheric effects often are very important.

Every box should be accompanied by its own list of pieces, and, when possible, by drawings of the parts and the complete machine. This helps the adjusters. It is not a bad idea to send with each machine any particular or peculiar tool that may be found useful or helpful in adjusting the parts.

Next in importance to marking the parts of the machines is the marking of the cases. It should indicate the weight, gross, net (absolutely exact), volume, and port of destination, the latter in large letters, at least 2 inches long. Marks of identification on each end of a case are of great value. A mark of some kind should surround the heads of nails or screws, which should be removed to unpack the machine.

If merchants and manufacturers will follow the foregoing suggestions, if they will add an ounce of prevention to their packing, they will reap a rich harvest in the results. From the selection of the material, to the building and packing of the box, to its delivery in far off parts of the world no pains must be spared.

COTTON AND ITS PRODUCTS.

POSSIBILITIES OF THE TRADE.

RELATIVE VALUE OF MANUFACTURES TO RAW MATERIAL.

A recent number of Dun's Review contains an interesting article on possibilities of trade in cotton goods, which it points out are in pitiable proportions to the outgo of raw material. Quoting the official figures of the exports of raw cotton for the eleven months ending July 31, valued at $385,608,673, and adding an estimate for the month of August, which would bring the total for the crop year to about $400,000,000, a sum far in excess of any previous year, the Review says:

Although the Government statement for eleven months is official, it probably overstates the value somewhat, because many European mills purchase direct from planters or place contracts far in advance of the actual date of shipment, while the records are compiled by taking the average price in the export market on the day of shipment. This is as accurate as it is possible to make these figures, and serves amply for all purposes, but must not be taken as statistically exact. Nevertheless, it is seen that about two-thirds of the crop is sent abroad each year in its least valuable shape. An extreme example was made in a discussion of the subject by a southern writer as follows: "A bale of cotton sells for $40; manufactured into pocket handkerchiefs or other fine fabrics it will bring $2,000." Of course, the great bulk of cotton goods do not show any such remarkable increase of value over the raw material, but every process of manufacture returns more or less profit to the mill owner and distributes vast sums in wages to labor. The latest report of dividends paid by New England cotton mills made the best quarterly showing in many years, despite the fact that large sums were spent for improvements and extensions that promise still better returns to stockholders in the future.

REASONS FOR EXPANSION.

There is no reason why this industry should not continue to expand, until the United States retains a much larger share of the profits of cotton spinning. Its mechanical devices are certainly as modern as those of any other nation, its men are as resourceful and energetic as any in the world, and there is no lack of financial support to erect and operate the necessary manufacturing plants. But the fact remains that while producing about three-fourths of all the raw cotton grown in the world, this country exports only 4 per cent of the manufactured goods, and each year imports about twice as much as it exports. The

southern writer already quoted is inclined to attribute the difficulty to the absence of American ships, claiming that foreign nations control the transporting facilities, which are the potent forces of commerce. There is a convincing sound in the argument advanced by this writer that "the merchant who trusted to the delivery wagons of his business rival across the street would not long be a competitor;" but, as a matter of fact, the foreign shipowners are not cotton manufacturers, although citizens of the same republic or subjects of the same king in some cases. If it was merely necessary to control methods of transportation, there would be no difficulty in building ships with the profits secured from manufacturing seven or eight million bales of cotton that are now sent abroad as raw material.

MALADY AND REMEDY.

Far less obscure is the correct diagnosis of this malady, and much more simple the remedy. It is merely a matter of method and adaptability. American producers are inclined to insist on selling the kind of goods they make, which are undoubtedly the best, on the terms in vogue in this country, which are also unquestionably unsurpassed. Yet it would be better to make concessions to prospective customers abroad if their trade is desired. An enormous business in cotton goods might be done in South America by adjusting our methods to meet the requirements of the inhabitants. If they call for a different weave than the one offered, spindles can be changed or new machinery built. Instead of cash payments most foreign buyers ask long-term credits, which merely call for proper investigation of the firm's responsibility. In building up this export business, European manufacturers have operated in a systematic manner, establishing trading posts in desirable locations and assuming a large initial expense that has returned immense profits. Possessing the raw material, domestic spinners would be in an impregnable position as competitors in the markets of the world if they would only make what the world wants, and sell it in a manner that appeals to consumers abroad. This lesson has been learned in several important industries, and is beginning to be understood in others, as indicated by the record-breaking value of exports of manufactured products in the year just ended; but there is still much room for improvement, particularly in the outgo of cotton goods.

WAR AGAINST SPECULATORS.

PLAN TO TERMINATE GAMBLING IN COTTON IN THE UNITED STATES.

An emergency meeting of the International Federation of Master Cotton Spinners and Manufacturers' Associations was recently held in London, at which it was decided to urge every cotton spinner in Europe and America to refrain from buying American cotton during the months of August, September, and October, except what may be wanted for immediate use. This is a very important step on the part of the representatives of the cotton industry, and is intended to prevent an artificial inflation of prices. A brief news dispatch published

immediately following the meeting was published, but in view of the importance of the movement, an interview published in the London papers with W. C. Macara, who presided over the gathering, will be of special interest to those engaged in the cotton industry in this country. Mr. Macara said:

I am particularly anxious that it should be understood in America that this is in no sense a movement hostile to the American cotton-growing industry. The decision we have reached has been forced upon us by the necessity of taking some step to counteract the pernicious effect on the trade brought about by the recent enormous enhancement of the price of the raw material due to the action of speculative rings. We are united and we are in deadly earnest. Although the meeting was summoned by telegraph, it was attended by representatives of the association from all over Europe. The Master Cotton Spinners' Association in England, of which I am the president, alone stands for 32,000,000 spindles. We deliberated on the matter for over six hours before we formulated our agreement.

EFFECT OF GAMBLING ON LEGITIMATE TRADE.

We hold that there is nothing more important for this great, world-wide cotton industry than to rid it of the curse of gambling in its raw material. Every penny per pound that is added to the cost of the raw material by this process represents an advance of many millions of pounds sterling in the cost of the world's supply. Last year the cotton crop was raised by this means—I speak of average prices—from 4 pence a pound, which would have been a fair price, to 7 pence a pound. In American money that means a rise in price from 8 cents to 14 cents a pound. I have calculated that it resulted in taking out of the industry £100,000,000—roughly speaking, $500,000,000 in your money.

In the main the gamblers alone have profited by it, and manufacturers, operatives, and consumers have suffered by it. The repetition of this sort of thing will demoralize the whole industry, inflict incalculable loss and suffering, and involve thousands in ruin. Now that we perceive the same speculative gangs at work again, and have already succeeded in greatly increasing the price of raw material, we are determined to exercise every means in our power to put a stop to their methods. We confidently anticipate that public sentiment in America will support us.

American cotton manufacturers have the same interest in getting the raw material at a fair price that we have, and so have the consumers. Of course the question is a more vital one in England than to any other continental nation engaged in the industry, because it is a vastly bigger one here. While they manufacture chiefly for their own populations we send our goods to millions in China and India, the poorest people in the world. When prices go up they can no longer afford to buy. But the continental manufacturers are in hearty accord with us. The bond of self-interest unites us.

While American cotton, roughly speaking, represents three-quarters of the world's supply, an artificial enhancement of its price is followed by a similar increase in the price of the material from other sources. The price at which American cotton is held controls the

market price for the rest of the world. It is for that reason that we have decided not to purchase American cotton for the next three months.

CONDITIONS FAVORABLE TO A SUCCESSFUL CONTEST.

Asked if manufacturers would be able to manage without purchasing cotton for three months, Mr. Macara said:

We are in excellent shape to make the fight. Last year's crop was exceptionally good, and it has been estimated that there will be at least 2,000,000 bales available surplus to add to the new crop. Reports made by members as to the conditions prevailing in the countries represented showed that the European cotton industries have on hand ample supplies to cover their engagements for the next three or four months.

With possibly a few exceptions, cotton spinners do not need to enter the cotton market before the new cotton crop arrives at the end of October. What we propose to do, therefore, is simply to keep out of it and let the cotton speculators deal as best they can with the situation they have created. If some of them come to grief we shall shed no tears. It isn't going to be our funeral this time.

Misleading figures as to the extent of the new crop have been circulated in the interests of the speculators. When accurate figures come in we shall consider the situation and take whatever steps may be necessary to meet it, should the supply prove less than the demand. We are determined that speculators shall not control the market. As for the American cotton growers, we have none but the best feeling for them. We wish them to get a fair price for their raw material and are willing to pay it. Even if the most sanguine expectations of those engaged in the movement for supplying British spindles with cotton grown within the British Empire are realized it must be long years before we are independent of the American supply.

PURCHASES TO BE SUSPENDED.

A dispatch from London states that an emergency meeting of the international committee of the International Cotton Congress was held in that city on July 31, when it was decided to urge spinners in Europe and America to refrain from buying American cotton during the next three months, except for immediate wants, and thus try to obviate the danger of the next cotton season commencing with raw material at the high prices at present prevailing.

The committee contends there will be plenty of time when actual figures are available regarding the new crop to consider the situation that will then arise, and, should the supply prove less than the demand, to take such steps as may be necessary to meet the conditions. At the same time the committee feels sure that the surplus from last year's crop guarantees a full supply even in the event of the next crop proving small.

The committee decided to organize a service for the obtaining of correct information as to the actual consumption of cotton throughout the world on the lines proposed by the congress at Manchester in June last, and hopes to soon publish the details of the scheme.

THE YEAR'S AVAILABLE SUPPLY.

The Bureau of Statistics, Department of Commerce and Labor, reports that figures obtained from commercial sources indicate that the total available supply of cotton for the current season to and including June 30 amounted to 12,901,315 bales, as against a similar supply in 1904 of 10,096,707 bales, and in 1903 of 10,739,877 bales. The amount of cotton brought into sight during the month of June totaled 475,903 bales, the smallest quantity for any one month during the current season. The net overland movement from September 1, 1904, to June 30, 1905, totaled 1,057,193 bales, and was approximately 150,000 bales greater than a similar movement in 1904, although slightly smaller than that for 1903.

Of the takings for the season 2,197,662 bales went to northern and 1,967,175 bales to southern mills, a total of 4,164,837 bales, in contrast with similar takings in 1904 of 3,882,812 bales and in 1903 of 3,899,127 bales. As compared with 1904 the receipts for both the northern and southern mills indicate slight increases. Cotton exports for the season to and including June 30 reached a total of 8,108,065 bales, an increase over the previous year's movement of over 2,000,000 bales. Of the current season's foreign exports 3,814,362 bales went to the United Kingdom, 795,314 bales to France, and 3,498,389 bales to continental Europe and other foreign countries.

EXPORT BY EGYPT.

Deputy Consul-General Grew, of Cairo, furnishes the following table showing to what countries and in what quantities Egyptian cotton was exported during the past five years. The Egyptian bale represents about 750 pounds:

	1899–1900.	1900–1901.	1901–2.	1902–3.	1903–4.
Austria	77,481	63,380	92,249	75,989	81,392
Belgium	12,617	7,768	9,604	12,670	20,860
Canada	1,100				
England	407,245	325,587	322,514	351,745	375,049
France	83,990	55,058	78,875	70,608	74,420
Germany	19,905	15,760	19,126	19,422	19,833
Holland			327		1,011
India	9,362	3,615	2,443	836	470
Italy	65,381	53,417	63,068	60,728	71,987
Japan	8,277	6,404	11,322	9,498	7,551
Russia	73,740	92,521	121,343	55,424	64,525
Spain	22,245	26,378	31,781	24,910	24,192
United States	72,196	57,715	106,565	84,819	55,162
Total bales	853,539	707,603	859,217	766,649	796,452
Equal to cantars	6,505,946	5,377,926	6,510,212	5,814,025	6,027,360

A cantar is equal to 99.049 pounds. In addition to the foregoing small shipments were made to Greece, Turkey, Japan, and other eastern countries, that for the last year having been about 120,000 cantars, which was largely in excess of any previous year.

LABOR.

HOMES OF GERMAN WORKINGMEN.

ACTIVITY AND EFFICIENCY OF BUILDING ASSOCIATIONS.

Consul Ernest L. Harris, of Chemnitz, furnishes a lengthy and interesting report on the homes of working people of Germany, which he accompanied with a description of the colonies founded in Essen by the firm of Friedrich Krupp, which is reserved for future publication, Consul Harris writes:

In Germany much has been done during the past few years to provide the laboring classes with neat and comfortable homes. To-day there are more than one hundred building associations throughout the Empire directly engaged in this work. These associations are all similar in their organization, aim, and scope. The building association in Chemnitz is an institution of limited surety, and was founded with the sole object in view of building, purchasing, renting, and managing dwellings at the lowest possible price for the benefit of its members. The association also acts in the capacity of a savings bank, and takes charge of money deposited by the members. Until the present time but little has been published about this society. The members, however, have been very active in endeavoring to interest workingmen, public officials and capitalists in the enterprise.

As is generally the case in every country, there is also in Germany a more or less scarcity of suitable dwellings, not particularly for the working classes alone, but for small officials as well, whose salary or means of existence is often not in proportion to the rents which they are compelled to pay. To alleviate this apparent want, the construction of small and middle-sized dwellings is an absolute necessity. This scarcity is becoming more inevitable in large congested industrial centers, where the price of rent naturally exercises an important influence upon the method of living, and especially makes itself felt during times of commercial depression.

LARGELY INCREASED RENTS.

During the past few years a great deal of building has been going on in such cities as Dresden, Chemnitz, and Plauen, not to speak of the many small towns throughout Saxony which have been very enterprising in this respect. At present many dwellings stand empty, for the reason that the rent demanded is beyond the means of that class of people which would gladly grasp the opportunity to move into newer and better quarters if able to do so.

In looking back over twenty-five years, however, the demand for new homes in Germany has still been such as to very considerably

increase the rates of rent. Dwellings which cost $125 per annum in 1875 now cost $250. This is particularly applicable to large flats. A dwelling of two small rooms, which formerly rented for $1.50 per month, can not now be obtained for less than double that amount. A practice much in vogue in the large cities is for the occupants of rented dwellings to relet rooms, the extra money thus obtained being used to defray the expenses of rent. Furthermore, a large percentage of the laboring people in Germany have thus far lived in single rooms.

MODEL HOUSES AT CHEMNITZ.

It was with the intention of abolishing such conditions from the city of Chemnitz that a building and loan association was established. The chief aim is to secure cheap, healthy, and comfortable homes for the working classes, and wherever possible this home shall have a garden. For this purpose houses have been built in Chemnitz and the immediate vicinity which amply meet the needs of the man of small means. These houses are let to members of the association at the lowest possible price, and the conditions of contract are all in favor of the renter. He can not be given notice of leave, or the rent advanced, without some very good reason, while he may vacate the dwelling at the end of every quarter, after having given three months' notice. A member can at any time purchase from the association any of the houses in its possession.

Any person may become a member of the association who has reached mature years and is a citizen of the German Empire. It is intended that all trades and professions should be represented. The conditions of admittance consist in the payment of $50, which, however, may be paid upon the installment plan at the rate of 10 cents a week. Those who have begun to pay according to this plan are entitled to their portion of the dividends, which, however, shall not exceed the rate of 4 per cent. If anyone should desire to retire from the association he may do so by giving six months' notice. He will then receive back whatever sum of money he has paid in, together with whatever annual dividends he may be entitled to. Identical or analogous plans are pursued by all associations of a similar character throughout Germany, and reports from all parts of the Empire would indicate that they are not only meeting a long-felt want, but are also accomplishing a work which will relieve the working classes of much of the irksomeness which naturally surrounds great industrial centers.

EMPLOYMENT OF CHILDREN.

Consul Hugo Muench, of Plauen, referring to a former report on certain new legislation in Germany tending to prohibit infant labor and exploitation, says that a sufficient test of the law has been had to judge of its fruits, and that these are not regarded very favorably. The consul says:

A sufficient test of the new legislation has been had to judge of its fruits, and these are not spoken of in the most enthusiastic strain. Optimists had believed that infant labor need only to be forbidden to be also prevented. That such has not been the result in this instance is now frankly admitted by the German press. It is pointed out that

while the control of child employment in factories, restaurants, and all public or semipublic works presents comparatively small difficulty, such control in case of "home work" becomes well-nigh impossible.

To be sure the inspectors, and other officials entrusted with the enforcement of this law, have sought and received the hearty cooperation of the school authorities in their endeavor to locate cases of absence and their cause; but hesitancy is naturally felt to practice a system of espionage upon the movements of children in their own domicile, and it is opined that since the home employment of the child and its consequent withdrawal from the benefits of scholastic instruction is generally caused either by dire necessity or a willful disregard of the best interests of the child on the part of the parent, a close inquiry into the reasons for nonattendance is more apt to develop a species of deception and prevarication on the part of both parent and child than to evoke truthful statements of the real causes of such absence. It is feared, also, that a systematic course of investigation into the private home life of the child would tend to shake that confidence between scholar and teacher which is looked upon as an element of value in pedagogy.

NEW PHASES OF INFANT LABOR.

Serious doubt exists whether the benefits under the new law have not been wholly offset by its baleful consequences. While it must be admitted that child labor in the factories has become easily controllable, it is charged that the very exclusion of children from these plants has called into being numerous other phases of infant labor. Thus, for instance, the industrial commission at Danzig reports that the home workers engaged in doing piecework for a wooden-ware factory employed not less than 489 children, aged from 6 to 14 years, at their homes at the work of platting cane for chair seats. Out of 317 children attending school, 135, viz, 42 per cent, were set to work after 8 o'clock p. m., nor did any of them enjoy their freedom during the recess of two hours at noon or of one hour in the afternoon. Thus the inhibition against factory work resulted to these unfortunates in the opening up of a far more cruel and deleterious employment.

It is strenuously urged, and with good reason, that in order to fully suppress this evil it will first of all be requisite to remove the temptation to this abuse by offering opportunity for parents to keep their young children at school and to do without the earnings now exacted from them.

Help is also expected from further legislation in the direction of curtailing all such home employment of immature children. Most of all, though, it is insisted that the inducements to parents toward keeping their minor children at school during school age should be greatly increased, and that not only the actually indigent, but the entire working classes, should be accorded free schooling for their children. The end of sociological legislation is not thought to be fully attained until it lights the way of childhood, as it even now smooths the path of old age. Thus it will be noted that elements are ever active in this country making for a broadening and deepening of the national schemes for patriarchal care of those not wholly able to take care of themselves, and the day is evidently not far distant when Germany will be able to boast of a public school system almost as free as our own.

REGULATION OF FEMALE LABOR.

The German Society for Social Reform has petitioned the Federal Legislature of Germany to pass an act to regulate the working time of females over 16 years of age who work in factories or industrial establishments. The petition asks:

(1) That the present maximum day of eleven hours be reduced to ten hours for such employees, and to nine hours on days preceding Sundays or holidays.

(2) That where the authorities permit overtime, the work shall not exceed twelve hours a day, and on Saturdays not over nine hours, and should stop by 7.30 p. m.

(3) That the dinner pause at noon be extended to one and a half hours, the shortening of this pause to be allowed by the public authorities only after they have consulted the female employees upon the subject.

(4) That women be not allowed to work in factories or similar occupations until six weeks after confinement nor during the fortnight following the six weeks unless a physician's certificate permits it.

This petition has met with almost unanimous opposition from the employers. Their objection to this reform measure is based on economical reasons. They say that many branches of manufacturing are limited to a short season in each year, during which overtime work is essential, so as to fill orders timely. They allege that through this reduction of the working hours German manufacturing, especially that for the export trade, would be seriously injured, the price of goods made higher, and in many cases, owing to inability to fill orders promptly, trade would diminish, and thereby the condition of the operatives become worse instead of being bettered, as the proposed change of the law intends.

WOMEN AND CHILDREN IN ITALY.

Consul Dunning writes from Milan that the modifications of the law of June 19, 1902, governing the employment of women and children, recently brought before the Italian Chamber of Deputies, provide for new regulations which will be of interest in industrial America. The new regulations provide that children of either sex under 12 years will not be allowed to work in any factory or mines. This provision is practically extended also to any trade. For admission to work in mines, tunnels, and so forth, children must have attained the age of 13 years where there is electric traction and 14 years where there is no electric traction; and women and girls are excluded altogether from this class of labor, regardless of age.

In work of a heavy, unhealthy, or dangerous nature, the new laws provide that no boys under 15 years of age shall be employed, or females under the age of 21. In Sicily, under certain circumstances, boys of 13 years will be allowed to continue in the employments where they are now engaged until July 1, 1907, after which the age limit will be 14 years under the conditions named above. Night work will not legally exceed nine hours out of any twenty-four, and in cases where night and day shifts are used the reliefs shall be made every eight hours.

These new regulations indicate the amount of thought which is being devoted to an important branch of social science by the Italian Government.

INTERNATIONAL PROTECTION.

Consul-General Guenther writes that it is reported from Berne that the minutes of the debates at the international conference for legislative protection to workingmen are now published. They contain among other provisions the following:

Germany, Austria-Hungary, Belgium, Spain, France, Italy, Luxemburg, the Netherlands, Portugal, and Switzerland agreed to have the use of white phosphorus prohibited in the manufacture of matches. The delegates from Portugal and Spain declared that their countries could only do so after a certain time. Denmark, England, Norway, and Sweden abstained from voting on the proposition. The delegate from Denmark stated that the Danish Government had already prohibited the use of white phosphorus in the manufacture of matches thirty years ago. The proposition therefore had no practical interest any more for Denmark, and the Government had therefore issued no instructions how to vote on this question. The delegate from Sweden called attention to the fact that, in consequence of proper legislation, necrosis is almost unheard of in Sweden and the few cases which occurred are easily cured. It would therefore not do to destroy an industry through which the country profited annually to an amount of 4,500,000 francs and which employed 1,500 working people. The delegate from England asserted that necrosis had disappeared in England in consequence of legislation, and therefore England considered it unnecessary to entirely prohibit the use of white phosphorus.

With reference to the prohibition of industrial night work of females the principles of the agreement were adopted by the delegates from Germany, Austria-Hungary, Italy, Belgium, Denmark, Spain, France, Luxemburg, Norway, Holland, Portugal, and Switzerland. The delegates from England and Norway did not vote. The delegate from England said that for the last thirty years a night rest of twelve hours is obligatory; also a day rest of one and one-half hours per day and the free afternoon on Saturday. At first an obligatory uninterrupted night rest of twelve hours was proposed, but finally eleven hours were agreed upon and incorporated in the principles of the agreement adopted.

WORKMEN PROTECTIONISTS.

The London Mail of July 24, forwarded by Consul Halstead, contains the following, under the caption "Workmen protectionists:"

"Many of the German workmen stand out for tariffs which mean an increase of their wages," is one of the most important statements contained in the exceedingly interesting and valuable Consular Report on the Trade of Germany for 1904, prepared by Consul-General Oppenheimer. He emphasizes particularly the rapid growth in the wealth of Germany, which has to-day become a rich country, with magnificent towns, possessing "superb railway stations and post-offices, spacious schools, libraries, public baths, theaters, and hotels."

The growth and development of syndicates is one of the features to which the report devotes much space. These trusts systematize production and "have become an economic necessity of self-defense,

because industry was being ruined by its own exaggerated competition." They keep prices steady and prevent overproduction.

A very important section is devoted to the effect of the new tariff on British trade. The British export to Germany "will labor under increased customs rates," which will stimulate greater production in Germany, and thus lead to increased exports to countries under a free-trade régime. The ultimate issue may be a central European customs union.

Another striking passage of the report is that which states that Germans generally are inclined to concede the fairness of preferential trade relations between England and Canada, and this despite the prophecies of the free traders that the result of such a preference would be a tariff war upon British products by Germany.

COMMUTATION RATES IN BELGIUM.

Consul McNally calls attention to an interesting fact connected with labor in Belgium. It deals with the tendering of liberal railroad rates to take workingmen to homes in the country. He says:

The recent publication of the railway statistics shows an interesting increase in the matter of weekly commutation tickets issued to the workmen of Belgium, which is, of course, for the third-class compartments. In 1870 there were issued 14,000; in 1875, 200,000; in 1885, 667,000; in 1900, 4,500,000; and in 1904, over 5,000,000. If we reckon on an average of 45 tickets a year for each person we find that some 110,000 workmen live in the country and are employed in the cities. This of course does not include those traveling on the small-gauge lines, trams, and other transportation enterprises.

FRAUDULENT IRISH LINENS.

Consul Knabenshue, of Belfast, transmits the following information, showing how textiles invoiced as "cottons" in Belfast are sold as "linens" in the United States:

There is no cotton spun in Ireland. The linen mills in this consular district purchase many warps from the cotton spinners in England to be woven into "union" goods with a linen weft. They also bring over large quantities of cotton goods to fill orders they receive from abroad. This affords an opportunity to report a method of fraud upon people of the United States, as well as of other countries which receive goods from Ireland. Cotton fabrics are brought from England. They are run through hot copper rollers, so hot as to slightly color the goods because of the heat. This also gives the fabric a glaze finish, which can easily be mistaken by the general buyer for that of linen. These goods are certified at this consulate as "cottons," which is perfectly true, and there is no possible way of stopping such shipments, as they in no way violate the customs laws. They are cotton, are so invoiced and shipped, but when they reach the United States they are sold as linens, and of course at a higher price than cottons.

MEDICAL AND SCIENTIFIC.

MEDICAL.

NEWLY DISCOVERED REMEDY FOR HAY FEVER.

There have appeared in previous numbers of Consular and Trade Reports contributions from Consul-General Guenther, of Frankfort, on hay fever and discoveries made by German scientists for its prevention and eradication. These publications have brought the consul-general many inquiries from sufferers in the United States for further information regarding the method of treatment under the new discoveries. Prof. W. F. Dunbar, director of the State Hygienic Institute at Hamburg, recently delivered a series of lectures on hay fever before the Hufeland Society, which were reproduced in the Berlin Clinic Journal. The Frankfort Zeitung recently published a lengthy article in which Professor Dunbar's lectures were freely used, a translation of which article is furnished by Consul-General Guenther. The Frankfort Zeitung says:

In his further deductions Professor Dunbar imparts still more with reference to these experiments, and confirms the fact that the pollen-toxin is a tox albumin. By means of the toxin solution it can be proven that a single grain of pollen contains enough toxin to produce intense irritation in very sensitive hay-fever patients. In this way the objection that grains of pollen could not be the cause of hay fever, because too few were contained in the atmosphere, is disproved. During the hay-fever time; that is, during the flowering time of the grasses, immense amounts of efficient pollen have been found in the air. Up to four millions can be deposited upon one square meter within twenty-four hours.

Most people are not susceptible to the influence of pollen toxin, but for hay-fever patients it is an extremely strong-acting poison. They are susceptible to the action of the most minute doses of the same. On account of this fact Professor Dunbar remarks: "I feel justified in stating that the hay fever appearing in the spring is an ætiological disease. The same is the case with the American fall hay fever, only in this the cause is found in the pollen of ragweed and goldenrod." Professor Dunbar endeavored to find a specific antipoison. He describes the many experiments to obtain an antipoison from animals, and reports that the blood serum of some animals showed clear anti-toxic effects within a few weeks. A mixture of pollen toxin and the serum prevented the irritating effects of the former. Professor Dunbar continues:

ANTITOXINE TREATMENT.

"For therapeutical purposes, the blood serum of horses treated with pollen toxin is naturally not applicable as soon as the first signs of the formation of antitoxine are noticed, but it can only be considered when it has attained a certain strength. For prophylactic purposes a serum of only a small amount of antitoxin would as a rule suffice. Apparently with only a few patients a systematic course of prophylactic treatment could be counted upon, and therefore the antitoxin will have to be employed in practice, as a rule, of great strength. In course of time it has been possible to produce a relatively very efficient antitoxin. The antitoxin which is manufactured by the firm Schimmel & Co., of Niltitz, near Leipzig, upon a large scale, has received the name Pollantine. Its manufacture is under constant control of the veterinary university of Leipzig. The subcutaneous use of antitoxin seems to be precluded as many hay-fever patients possess an idiosyncrasy against normal horse serum. After it has been ascertained, meanwhile, that the antitoxin is completely united with globuline, experiments are being made to prepare a serum which is also suitable for hypodermic injections.

APPLICATION OF THE SERUM.

"I do not consider such a serum as absolutely necessary. I consider it, however, as a very special advantage of the hay-fever antitoxin that success is attained without resorting to injection. Hay fever differs from those diseases where, so far, specific antitoxins have been employed mainly in this, that infection takes place not only once and where the infection matter continues to develop in the body, but that for the duration of several weeks the poison floats to the patient without interruption. A subcutaneous treatment would in such a case be very desirable if the patient thereby would be made perfectly insensible to the pollen toxine for a longer duration than, say, of one to two weeks. This does not seem to be possible at this time. I also had to abandon the experiments for active immunization of the hay-fever patients as being wholly unsuitable in practice. Under such circumstances a mode of application had to be found possible for every patient at any time. It was, therefore, a pleasant surprise for me when I could show that the simple application of one drop of the serum to the conjunctiva or into the nasal canal sufficed completely in rendering these main entrances of the poison completely insensible and also to remove irritation already existing.

"I for one, in view of such facts, have no desire for another remedy, for a more simple application can hardly be found. In cases where the nasal canals are entirely closed, the desired end will be attained by applying the pollantine repeatedly to the conjunctiva. It then acts from the lachrymal canal upon the mucous membrane of the nose. If, in addition, a small ball of cotton wetted or sprinkled with antitoxin is introduced into the nasal canal most afflicted, it can be made perfectly free again in the course of about half an hour, and then the treatment can be applied to the other side. It appears to be very judicious, during the worst days of the hay fever, to soothe the mucous membranes of the nasal canals, and to treat them prophylactically by alternately closing the nasal canals by means of cotton.

JUDGMENT AND SKILL REQUIRED.

"A further improvement of the hay-fever remedy was obtained by pulverizing it, a form in which it is not susceptible to bacteriological decomposition. Sugar of milk is the means to easily dissolve it again, as powdered antitoxin irritates the mucous membrane mechanically. Numerous patients who used the antitoxin in strict conformity wtih the prescribed use, consumed during a whole hay-fever season only about 3 grammes (about 50 grains) of the powdered remedy in order to be entirely free from attacks. Further remarks apply to the details in using antitoxin. From them it appears that judgment and a certain amount of skill is required to use it correctly.

"But anyhow many hay-fever patients use it successfully, as proven by statistics of Doctor Luebbert, according to which, of 505 patients, 299 (59.20 per cent) use pollantine with absolutely favorable results—that is, they were free from attacks during the whole period—143 (28.39 per cent) used the remedy with partial and 63 (12.5 per cent) without any success. It is to be hoped that the results will become more favorable yet with growing and expert use."

REPORTED CURE FOR TUBERCULOSIS.

Consul Dunning, of Milan, has received numerous communications from the United States in regard to a reported cure for tuberculosis discovered by Professor Levi, of Milan, and writes as follows regarding the matter:

A great deal of interest having been aroused throughout the world by the report that Professor Levi, of Milan, Italy, has perfected a cure for tuberculosis in both humans and animals, I believe it proper to make a statement, in order that the hopes of those suffering with consumption, and of their friends, may not be too greatly aroused or too positively gratified by the belief that they are about to receive a sure and lasting cure. In the last few weeks I have received countless letters from America asking for further information of Professor Levi's investigations, based on newspaper reports printed in the United States, and on indefinite hints sent by consuls in other countries, who have heard indirectly of the experiments going on here. All my correspondents evidently believe the long wished for remedy has been found.

The fact seems to be that Professor Levi, whom I believe to be a careful and conservative scientist, has been experimenting for a more or less extended period with iodine, following and extending certain lines of study which for many years have engaged the attention of Italian men of medicine. For a long time it has been a common belief among a group of the most advanced Italian scientists that iodine, properly transformed, could be used successfully to attack tuberculosis in men and animals. The difficulty has been in the process of transformation by which the iodine is rendered suitable for injection or inoculation. Professor Levi's experiments have dealt solely with this process, and his "secret" lies in the character of the treatment which he applies to the drug. He believes he has discovered the right mixture. Whether or not he has done so remains to be seen, both by himself and the public. Only long and exquisitely cautious experi-

ments can give the proofs which medical science will rigidly exact and which Professor Levi himself insists on obtaining before he makes any further statement regarding his work. He will not undertake to create among sufferers with tuberculosis hopes which his later labors may show to have been vain, and he declines to endanger his own reputation by claiming at this critical stage of his work results which the final tests may not wholly justify. American surgeons and scientists who are familiar with the high character of the Italian doctors and with the character of their work will understand fully the position taken by Professor Levi.

Meantime, Professor Levi is working steadily toward the ultimate trials of his discovery, and promises to give the world the result of his labors at the earliest possible time. He has apprised the King of Italy of his intentions and has received the encouragement of the court. Continental physicians are generally awaiting his formal announcements. At the moment this is made I shall communicate with the Department of State, and until that time I advise Americans who for any reason are interested in the "cure" to join with Professor Levi himself in hoping for the best, without placing too much faith on what is at present an uncertain outcome.

EFFECTS OF SEA WATER.

Consul-General Guenther, of Frankfort, furnishes from German papers a report to the effect that Doctor Quinton, of Paris, has recently communicated to the Paris Academy of Medicine with reference to the effects of sea water upon tuberculosis. The experiments were conducted with sea water which was so diluted with pure water as to contain 7 parts of salt in 1,000 parts of liquid. Only in this strength salt water should be brought into contact with the inner tissues of the human body. The sea water must, of course, be sterilized and is then injected hypodermically once in three or four days in doses of from 50 to 300 cubic centimeters. So far Doctor Quinton, assisted by another physician, has treated 18 patients in the manner indicated and ascertained the at once evident reviving effect of the sea water. The patients gained steadily in weight. Only 3, in whom the disease had progressed very far, showed no improvement, while in the other 15 a decided improvement, both in the general condition and in that of the diseased parts, the lungs or the glands, was effected. Expectoration and the number of bacilli were decreased.

OPERATIONS FOR APPENDICITIS.

Consul-General Guenther reports, from statements contained in German papers, that appendicitis, or inflammation of the vermiform appendix, has assumed the disagreeable character of becoming more and more a fashionable disease. Surgery has achieved great triumphs in this sphere and has cured innumerable cases of the disease. The French surgeon Roux, however, has asked the question: "Is appendicitis over if one carries his appendix in one's pocket?" and his answer was not entirely affirmative. From the statements of Dr. Frederick Trever, one of the foremost authorities, and physician of King Edward, similar doubts appear.

According to the experiences of this great expert, failures may occur, which he treats in two groups. On the one hand the operation may

only result in relief or an incomplete cure; on the other hand, complications are to be feared which do not depend upon the surgical intervention. Only the surgeon is concerned to study the details of the deductions of Doctor Treves in order to more fully learn of the eventual dangers which may follow an operation. For the patients, it must be stated that an operation remains the most preeminent remedy, if not the only one, of which a complete cure is to be expected.

Doctor Pond, of Liverpool, has advanced a new theory with reference to the origin of appendicitis and other disturbances of the digestive organs in the Lancet. He calls attention to it that such ailments can often be attributed to antimonial poisoning, and the source of the antimony taken up by man is said to be the rubber rings which are frequently used to close all sorts of bottles. Doctor Pond has established the fact that such rings consist of almost one-third their weight of antimony. The antimony is not only dissolved by the mineral waters containing alkalis and organic acids, but these rubber rings, as daily observation shows, soon become brittle and some of the compound falls into the contents of the vessels.

Doctor Pond claims to have found that a frequently repeated introduction of antimony can become the source of a series of disturbances of the nutritive and digestive system, especially through continued weakening of the muscles of the stomach and intestines. In case that his statement as to the contents of antimony in rubber rings is correct, his deductions seem plausible, but with reference to appendicitis a confirmation of such connection must be awaited.

DISTINGUISHING HUMAN FROM ANIMAL BLOOD.

The Prussian military surgeon, Doctor Uhlenhuth, of the University of Greifswald, is the discoverer of a new method for distinguishing human from animal blood. In 1897 Doctor Uhlenhuth was assistant at the institute for infectious diseases at Berlin and is a member of the commission for investigating the foot-and-mouth disease. In the fall of 1900 he published the results of very important investigations with reference to distinguishing between the albumin of eggs of various birds upon the basis of modern science, which is mainly the result of the researches of Bordet of France and Ehrlich of Frankfort. Uhlenhuth found that these albumins can be differentiated biologically. His researches resulted in the very important discovery of a new forensic method to distinguish human from animal blood, so that it is now possible to tell with absolute certainty the origin of even the smallest traces of blood either in dry or also in putrefied form. This method, which he published in February, 1901, was soon confirmed on all sides and has become of fundamental importance for forensic medicine.

By his method he can tell the presence of horse meat in sausages and other smoked-meat articles, which is a great step in advance for the examination of food stuffs.

MEDICAL STATISTICS IN PRUSSIA.

Consul-General Guenther writes that the memorial of the Prussian statistical bureau, issued in connection with its one hundredth anniversary, contains a detailed statement of the mortality on account of

tuberculosis and cancer since 1876. It appears that the tuberculosis mortality in Prussia reached its highest in 1886, with 88,283 deaths, and since then has constantly decreased. In 1902 and 1903 the number of deaths from tuberculosis was 67,445 and 66,726, respectively. A very gratifying feature is found in the fact that in the larger cities, where statistics are most reliable, the decrease is especially great. In 1886 in all cities over 100,000 inhabitants the death rate on account of tuberculosis was 37.36, and in 1902 only 22, per 10,000 inhabitants. Unfortunately the mortality from cancer indicates a notable increase of that disease. In 1901 and 1902, 21,488 and 21,876 persons died of cancer in Prussia, against 10,919 in 1886. Cancer attacks persons of ages between 30 and 70 years and above, chiefly. City communities suffered most from the increase. In 1886 the mortality from cancer in all Prussian cities was 5.71, against 8.75 in 1902, and in rural communities 2.75 in 1886, against 4.35 in 1902, per 10,000 inhabitants.

MEDICINE AND DENTISTRY IN MALTA.

Consul Grout, Valetta, Malta, answers in the annexed communication numerous inquiries received by him regarding the practice of medicine and dentistry in Malta:

I am in receipt of frequent letters from members of the medical and dental professions and students in the United States asking for information as to the laws governing their professions here and the opportunities for establishing practice. A university and a medical school are located in Malta, and all departments of medicine are very fully represented in the local government. In addition to the faculties of the university and medical school, there is a council of health. Registration of candidates desiring to practice is compulsory. The medical men of the place, whether in government employ or engaged in private practice, are almost without exception natives of Malta. The position of the medical profession is good, its members are for the most part well educated, and in number fully suffice for the needs of the place. Local regulations in force cover very strictly the practice of medicine, dentistry, midwifery, veterinary science, and the sale of drugs.

To be permitted to practice medicine here one must be a British subject. This, of course, makes it impossible for an American physician to enter the field.

In the matter of dentistry, in order to obtain a license to practice one must have been admitted to practice under the provisions of the Imperial Parliament or else after having obtained a diploma from the local university or other schools of these islands.

To those desirous of obtaining a foothold in foreign countries it will thus be seen that Malta offers no encouragement. Even if there were no obstacles, I do not believe these islands would prove satisfactory to an American physician or dentist. Living is rather expensive and fees are very low. Many of the physicians and dentists now in practice here received diplomas not only from the local medical school, but also from English institutions. There are a few dentists here, but even these find very little to do during the summer months.

NEW ANÆSTHETIC.

Consul Albert, of Brunswick, Germany, reports that the last number of the Deutsche Medizinische Wochenschrift, a weekly medical periodical published by C. Imgens, Elberfeld, contains the important announcement of the discovery of a new anæsthetic. It is stated that the editor, in connection with Dr. Franz Hoffmann, had succeeded in producing a substance which possesses all the qualities of cocaine in causing insensibility to pain, and at the same time has none of the injurious effects of that remedial agent. This new substance has been called by them "alypin."

After numerous experiments the two investigators have been able to establish the fact that alypin is a neutral reagent easily soluble in water, causing insensibility to pain at the place of application; a so-called local anæsthetic in contrast to the effect produced by the generally known anæsthetics, which cause entire loss of consciousness and are in the real sense of the term narcotics.

These experiments have further shown that alypin, while possessing strength equal to cocaine in its effect, is at the same time to be preferred to the latter, because it is less poisonous, produces no enlargement of the pupils, can be used agreeably to and without disturbance of the patient's condition, and that no stricture of the vascular structure follows from its use.

The importance of this discovery is at once evident, for the less the danger connected with the insensibility artificially produced, so much the better it is for the patient and the tranquillity of the physicians.

SCIENTIFIC.

DENATURIZED ALCOHOL AND ITS USES.

Consul-General Mason, of Berlin, complying with special instructions, furnishes an interesting report concerning the manufacture and use of alcohol for fuel and other industrial purposes in Germany. Consul-General Mason made a report on this subject in June last, which was printed in Daily Consular and Trade Reports of July 24, and in which were included some of the facts stated in the present report. The consul writes:

The official statistics of last year's campaign, viz, from September 1, 1903, to August 31, 1904, give the following as the total output of alcohol from each of the three principal raw materials during the year:

	Hectoliters.
From potatoes	3,045,605
From grains	692,483
From beet molasses	116,211
Total	3,854,299

Equal to 101,823,470 gallons.

The spirits distilled from grain and molasses and the small quantities made from cherries, grape-must, plums, etc., are used mainly for

drinking and the manufacture of medicines, perfumes, vinegar, and various other food preparations. The great source of industrial alcohol is from potatoes, and it is used for heating, lighting, and motor purposes, and for a vast number of applications in chemical and industrial manufactures. For the reasons explained in my previous report, the consumption of alcohol in Germany as fuel for portable and stationary engines, automobiles, etc., has decreased rather than increased the past two years, and amounted during the last campaign year to not more than 951,000 gallons, or less than 1 per cent of the whole alcohol product of the same year.

For most industrial purposes alcohol is used in Germany duty free, after having been "denaturized," or rendered unfit for drinking purposes, by admixture, in presence of a Government official, with a prescribed percentage or proportion of one or more of several different substances prescribed in the very elaborate statute which governs that complicated subject in this country. There are two general classes or degrees of denaturizing, viz, the "Complete" and the "Incomplete," according to the purpose for which the alcohol so denaturized is to be ultimately used.

GERMAN METHODS OF DENATURIZING.

I. Complete denaturization by the German system is accomplished by the addition to every 100 liters (equal to 26½ gallons) of spirits:

(*a*) Two and one-half liters of the "standard denaturizer," made of 4 parts of wood alcohol, 1 part of pyridin (a nitrogenous base obtained by distilling bone oil or coal tar), with the addition of 50 grams to each liter of oil of lavendar or rosemary.

(*b*) One and one-fourth liters of the above "standard" and 2 liters of benzol with every 100 liters of alcohol.

Of alcohol thus completely denaturized there was used in Germany, during the campaign year 1903–4, 931,406 hectoliters denaturized by process (*a*), as described above, and 52,764 hectoliters which had been denaturized by process (*b*). This made a total of 26,080,505 gallons of wholly denaturized spirits used during the year for heating, lighting, and various processes of manufacture.

II. Incomplete denaturization—i. e., sufficient to prevent alcohol from being drank, but not to disqualify it from use for various special purposes, for which the wholly denaturized spirits would be unavailable—is accomplished by several methods as follows, the quantity and nature of each substance given being the prescribed dose for each 100 liters (26½ gallons) of spirits:

(*c*) Five liters of wood alcohol or one-half liter of pyridin.

(*d*) Twenty liters of solution of shellac, containing 1 part gum to 2 parts alcohol of 90 per cent purity. Alcohol for the manufacture of celluloid and pegamoid is denaturized.

(*e*) By the addition of 1 kilogram of camphor or 2 liters oil of turpentine or one-half liter benzol to each 100 liters of spirits. Alcohol to be used in the manufacture of ethers, aldehyde, agarcin, white lead, bromo-silver gelatins, photographic papers and plates, electrode plates, collodion, salicylic acid and salts, aniline chemistry, and a great number of other purposes, is denaturized by the addition of—

(*f*) Ten liters sulphuric ether, or 1 liter of benzol, or one-half liter oil of turpentine, or 0.025 liter of animal oil.

For the manufacture of varnishes and inks alcohol is denaturized by the addition of oil of turpentine or animal oil, and for the production of soda soaps by the addition of 1 kilogram of castor oil. Alcohol for the production of lanolin is prepared by adding 5 liters of benzine to each hectoliter of spirits.

The whole amount of incompletely denaturized alcohol of the several grades above described which was consumed in Germany last year was 385,946 hectoliters, equal to 10,227,569 gallons. In addition to all the foregoing, 21,779 hectoliters of alcohol were used duty free and without denaturization of any kind for governmental or public purposes, such as hospitals, Government laboratories, and for the manufacture of fulminates and smokeless powder.

COST OF PRODUCTION.

The cost of manufacture of alcohol in Germany varies in the different States and provinces of the Empire, and still more from year to year, in accordance with the yield and consequent market price of potatoes, grains, and other materials. In Prussia during the past year the wholesale price of fully denaturized spirits of 90 to 95 per cent strength has ranged from 35 to 50 pfennigs per liter, which would be from $8.56 to $11.90 per hectoliter of 26½ gallons—say 32.3 to 45 cents per gallon. This was a marked advance over the prices of the campaign years 1901–2 and 1902–3, when, by reason of the enormous potato crop and consequent overproduction of spirits in 1901, the open market rate for denaturized alcohol of the grade used for motor purposes declined to 15 and 17 cents per gallon, but has now risen to from 31½ to 35 cents per gallon for the same quality. It goes without saying that much of the alcohol sold for the prices of 1901, 1902, and 1903 brought to the producer the bare cost of manufacture, or even less, whereas the industry is now, generally speaking, profitable and prosperous. Alcohol as a fuel for motors requires for the best results an admixture of from 15 to 30 per cent of benzole, and at the present cost of denaturized spirits is no longer an economical motor fuel in Germany.

DESTROYING INSECTS BY ELECTRICITY.

The Electrical Magazine, according to German papers, describes a series of experiments for destroying insects injurious to the products of the soil, which experiments are said to have been successful. An engineer at Monaco was the first one to have his attention called to it while he worked with an electric machine in the open air. He observed that metal rods, which were put into the ground and were then connected with a dynamo of 110 volts, made insects in the vicinity leave their hiding places in the ground. He argued that electricity might therefore be used on a large scale to kill these insects, which all came in great haste to the surface. It is probable that for the killing of various kinds a different voltage should be used. Further experiments must be made to this end.

An apparatus is mentioned, invented by a Russian, for killing injurious insects by electricity. A dynamo is so placed upon a hand car that no electricity is engendered while the car is standing still.

When in motion the current passes into the ground through the iron wheels of the car upon one side, and upon the other through the points

of brushes of copper wire, which are fastened in the rear of the car so as to be a few inches above the ground.

The result is said to be that all insects in the vicinity of the copper brushes are killed as if by lightning.

ELECTRICITY FOR SMELTING.

Vice-Consul-General Gorman, of Montreal, reports that the Dominion Government has appropriated $15,000 for making experiments with the electric process of smelting ores and manufacturing steel at Sault Ste. Marie, and the Consolidated Lake Superior Power Company will furnish a building and dynamo capable of supplying 400 electric horsepower for four months free of charge. All kinds of ores will be experimented with, and important results are expected to be obtained.

Great possibilities for Canada underlie the inauguration of a cheaper process for manufacturing pig iron and steel than is now in use. Ontario is dotted with ore bodies, the development of which is at present prevented by lack of cheap fuel. There is coal in the eastern and western parts of Canada, but the cost of conveying it to points where coke is needed for smelting purposes is prohibitive. On the other hand, there are a great many water powers throughout the provinces of Ontario and Quebec where electricity can be developed and utilized. If the electric system proves to be commercially feasible Canada is looking for the inflow of a large amount of capital and considerable mining development.

TIME-RECORDING CAMERA.

To ascertain the exact speed at which motor cars are traveling is often a question of great importance to the general public, who suffer by reckless motoring, and of equal importance to conscientious and careful motorists, who wish to obey whatever the law on the subject may be. A new time-recording camera has just been patented in England.

If the police wish to know the speed at which a motor car is traveling, two of the time-recording cameras referred to can be placed at each end of a "trap," the distance between the points where the cameras are located having been accurately measured. The plan is for the cameras to take actual photographs of a car, including the people on the car, as it passes the selected spots, recording the time of taking to the fraction of a second. This gives the speed and means of identification of car and occupants. If the watch be synchronized, the decision arrived at must be accepted by all parties as accurate. It is proposed, the Motorcar Journal states, that when a driver is summoned for exceeding the speed limit he be furnished with the photographs of the car entering and leaving the "trap" and the time records, and be given an opportunity before appearing in court to measure the length of the trap and calculate from this data the time actually taken in traversing the distance and from this the rate of speed. The Motorcar Journal's description in part is as follows:

"With this camera it is possible to take a photograph of any rapidly moving object passing any given point, the shutter speeds giving a range of exposures from one twenty-fifth of a second to one one-

thousandth of a second; at the same time and with the same movement a photograph is taken of a watch, thus giving the exact time. A special case is provided for the watch, and in an opening above the latter a card is inserted giving the date, which can be signed by the officer responsible for the time test. Underneath the dial is a numbering apparatus, and each watch case bears a registered number before it is sold. The case is so made that after the official has placed the watch in the case it can be sealed (not locked) up, and it is impossible for the person in charge of the same to tamper with the watch without breaking and destroying the seal. The camera thus makes a record that can be produced in court, and if carefully stored can be referred to and reproduced months afterwards."

VALUABLE DISCOVERY REPORTED.

A recent copy of the Canadian Manufacturer contains the following interesting item:

The Hungarian chemist, Brunn, described, in a paper which vouches for the facts as being well known in the highest scientific circles, his alleged discovery of a liquid chemical compound which renders certain kinds of matter proof against the effects of time. He asserts that it doubles the density of nearly every kind of stone and renders it waterproof. It imparts to all metals qualities which defy oxygen and rust. It is also a germicide of hitherto unequaled powers.

The professor says that while traveling in Greece some twenty-five years ago he noticed that the mortar in stones of ruins which were known to be over 2,000 years old was as hard, fresh, and tenacious as if it had been made only a year. He secured a piece of the mortar, and has been working on it ever since until now, when, he says, he has discovered the secret. The compound is a yellow liquid, which the professor has christened zorene.

An interviewer describes the following experiments: A piece of ordinary and easily breakable slag after immersion in zorene defied the full blow of a hammer. There was the same effect on ordinary bricks and a block of red jarrah wood. All three were then immersed in water for a long time. When taken out and weighed with delicate scales the presence of a single particle of added moisture could not be detected. Two pieces of steel submitted to an ammonia test equal to five years' exposure to the air emerged from the bath as they entered it. An ordinary table knife which had lain open five months did not show the slightest stain. Professor Brunn asserts that he will be able to make roads dust, germ, and waterproof, thus giving a commercial value to hundreds of millions of tons of slag which is now useless in the mining and smelting districts. His discovery will at the very least double the life of metals exposed to the air, such as in bridges, railroads, vessels, and tanks.

NEW COPPER-WELDING PROCESS.

Consul Shank, of Winnipeg, Canada, reports that scientific circles are interested in the discovery of a process for welding copper, which has been made by a local blacksmith. It is said the process has been thoroughly tested and found perfect, and that copper can be welded to

copper or to other metals without impairing the electrical conductivity and other properties of the metal. The process is said to be very simple and no more costly than the welding of steel. The work can be done with a forge, blowpipe, or any apparatus which will heat the metal cherry red. Patents have been applied for in the United States and Canada.

PRODUCING HIGH VACUA.

The German scientific journal Prometheus states that the English physicist Dewar has found a new process for obtaining high vacua, which forms another practical employment of liquid air. It is known already that charcoal possesses the property in a high degree of absorbing gases. Dewar has demonstrated that this absorptive property of charcoal increases manifold, if it is cooled to the temperature of liquid air (about 185). The absorption takes place so energetically that if the charcoal is contained in a closed vessel the latter soon becomes void of air.

Where formerly the quicksilver pump had to be worked incessantly for hours and days, it now suffices to attach a tube to the vessel intended to be freed of air, into which some charcoal, preferably of cocoanut shell, is placed, which has been immersed in liquid air. In this manner a vacuum is obtained within a few minutes suitable for producing cathode or X rays. This method possesses also the advantage that the moisture, which can sometimes be only removed with difficulty from the vessel, is at once condensed in the tube.

FOREIGNERS IN GERMAN UNIVERSITIES.

From a long report on foreigners in German universities. published in a London journal, the following is taken:

Restrictions have been laid on foreigners wishing to study at German technical universities by rendering the conditions of admission more severe, and this practice will be extended to the ordinary universities. A new governmental regulation dealing with the admission of foreign students to technical universities, which comes into force with the commencement of the next semester, contains the following clause: "The conditions of admission for Germans apply also to foreigners, but in the case of the technical university at Dantzig special permission must be obtained from the minister for public instruction before any foreign student, even though he fulfill all these conditions, is admitted." The fact that the ships' construction department is one of the leading features of the Dantzig Technical University may be a reason for practically excluding foreign students; but, on the other hand, this is the most modern of German technical universities, and it may have been thought politic to introduce the new system there. It is, however, evident enough that steps are being taken which will probably eventually close German technical universities to non-German students.

Whether this is to be looked upon as an illiberal policy or as one justified by the facts remains to be seen. It is certainly a significant sign of the so-called commercial spirit.

INTERNATIONAL ASSEMBLIES.

PREVENTION AND EXTINCTION OF FIRES.

Consul Dunning, of Milan, Italy, reports that there will be an international gathering at that city next year of those actively engaged in the extinction of fires, as well as those interested in fire insurance. The consul writes:

The prevention of fires is looked upon in Europe much as the extinction of fires is regarded in America. Of great interest in both continents, particularly to the insurance corporations, will be the news that the Italian Technical Fire Brigades Federation has made arrangements to hold in Milan in May, 1906, a congress with brigade competitions for the prevention and extinction of fires, under the auspices of the civic authorities of Milan and of the committee of the international exposition to be held in Milan next year. The congress will last seven days. The mornings will be given over to work and discussions and the afternoons to receptions, visits to the city, excursions, etc. The Milan firemen will give exhibitions during the afternoons. On another day there will be a review of the visiting firemen and on another a visit to Lake Maggiore.

The following may take part in the congress: Officers of any public fire brigade in America or Europe, commanding officers of private fire brigades for the extinction of fires, and directors of companies and those of fire insurance societies, together with all persons interested in the development of defenses against fires, such as managers of public and private institutions, owners of houses and factories, or any other persons equally interested or involved. The competitions will be open to all fire brigades, municipal, volunteer, or private. All foreign members who are not official delegates of governments or corporations and who are not members of the central committee or of some of the local foreign subcommittees must subscribe the sum of 10 lire ($1.93) to aid in the expenses of the congress.

In addition to medals, diplomas, and special works of art offered by the committee as prizes in the various competitions of the congress, money prizes will be offered for rewards in the tests between foreign brigades. Everyone taking part in the congress will be given a decorative souvenir. All competing members will be provided with military lodgings, free, if they are applied for in advance, though this is not extended to visiting officers. Horses will also be stabled free, and there will be shelter for apparatus and material.

Italian is to be the official language of the congress, but papers may be read in English if a translation is filed with the executive committee two months before the opening of the competition. Ten minutes will be allowed to each speaker. Entrance registration closes March 1, 1906, and entries for technical communications and conferences to be

offered and held during the congress will close on the 1st of February. A jury, appointed by the executive committee, will officiate at the competition. Whether or not any American teams or firms will wish o take part in the congress or the competitions, such as are interested may apply to this consulate for information, which will be cheerfully and plentifully furnished.

COMMERCIAL COLLEGES AND INSTRUCTORS.

Consul James E. Dunning also reports that American business colleges will be interested to know that, on the initiative of the Italian Commercial University, an international congress of commercial instructors will be held during the Milan Exposition of 1906, which will continue the work already initiated by previous congresses. Here is an opportunity for American schools, as well as for such manufacturers as are interested in the production of supplies for schools of this character. The minister of public instruction, and the minister of agriculture, industries, and commerce, and the president of the Milan Chamber of Commerce are prominent figures in the work of organizing and directing the congress; besides, the committee in charge includes the directors of the commercial schools at Genoa, Venice, and other cities and the presidents of all the chambers of commerce in the country.

On June 23, at a meeting of the general committee in charge of the congress, the programme arranged was approved; and one of those present declared that "The congress will certainly make known to foreigners who will attend how much Italy and Milan have done for commercial instruction in Europe."

Americans interested in the congress will be supplied with information by applying at the consulate at Milan.

HEATING AND VENTILATION.

Consul-General Guenther, of Frankfort, reports that the annual convention of the manufacturers and professional experts of the "German heating and ventilating industries" was held at Hamburg the first week in July. One of the delegates, Professor Rietchel, of Berlin, in speaking of the technical condition of these branches remarked that the United States was far ahead of Germany in matters of heating and ventilation. It does not speak well for the enterprise and mercantile ability of our manufacturers in this important branch for which Europe offers such a vast and profitable field, that American heating and ventilating plants are not installed here, in spite of their great superiority.

Mining in Ontario.

Consul Moorhead, of St. Thomas, reports that Professor Miller, of the department of mines, during an inspection in the vicinity of Madoc, Ontario, visited six mines, each one of which was producing a different kind of ore. These were as follows: A fluorspar mine at Madoc, a talc mine at Madoc, a copper mine at Eldorado, an iron-pyrite mine at Queensboro, a zinc mine at Parham, and a feldspar mine at Bedford. The fluorspar mine at Madoc is the first of its kind in Ontario.

MISCELLANEOUS.

COMMERCIAL SCHOOLS.

VALUE OF ELEMENTARY EDUCATION QUESTIONED.

The Birmingham (England) Post is very much in doubt as to whether modern methods of education are not responsible to a large degree for the development of what it calls "a discontented race." The enormous increase in expenditures for public education is a question, the Posts says, that calls for careful consideration on the part of those interested in the most successful development of social and economic conditions. It says:

"They have been multiplied to keep pace with the repeated introduction of new subjects, many of which were never conceived of as part of a public elementary education when the education act came into operation, and which it is alleged are now imposing such a strain both on the resources of the schools and on the intelligence of the child as seriously to threaten the efficiency of our educational system. Each subject in itself may be good even as part of the curriculum of a public elementary school—though that is a point that is by no means generally conceded—but the question that has arisen in the minds of many head teachers who are struggling to maintain the efficiency of the institutions of which they have charge, is whether a somewhat exaggerated importance is not being attached to fads by the more advanced educationists, as a result of which there is a serious danger of impairing the thoroughness of the school training in what are regarded as the essentials to a sound elementary education."

THOROUGHNESS SACRIFICED.

The Post places the responsibility for changes in elementary education, the value of which it questions. While it approves of manual labor, carpentry, cooking, etc., even for boys who may want to serve as cooks on boats, laundry, dairy and household work for girls, it doubts the wisdom of adding a long list of other studies such as are seldom if ever used by the lads and lasses in later life. Fault is found with the breaks in school work caused by the introduction of new lines. While saying nothing for a return to the three R's, enough is said to satisfy even a superficial reader that the Post does not favor all the new departures from the old system. It says they cause a sacrifice of thoroughness. Too little time is given to any one subject to secure anything like a mastery of it. Parties interested in so-called higher education "are, by their desire to convert the public elementary schools into nurseries of the universities, robbing elementary education of much of its commercial value. When it is pointed out that

only a very small percentage can ever enter the universities or even high schools, the system appears to be anything but what is best."

A leading educator of Birmingham, after pointing out the disadvantages to poor children under a system that prepares the boys and girls, better situated, to become their rivals in seeking situations, says:

"I quite agree that we should provide facilities for the training of superior intellects, but one has to consider what is to become of the enormous number of boys and girls who are being educated to a pitch which qualifies them to occupy positions which it is utterly impossible for a large proportion of them to obtain. There are scores of young men being turned out of the universities even, who, with all their excellent qualifications, are compelled to accept inferior situations at absurdly low salaries in order to earn a living at all. If we are producing men who are qualified for high positions which they can never hope to fill, then we are creating a race of dissatisfied men, and a discontented people is a serious danger to the State."

PUBLIC INSTRUCTION IN HANDICRAFTS.

Consul-General Guenther reports that the commissioner of education of Mannheim spoke on the importance of national development and the benefits of giving instruction in handicrafts to boys at the public schools. He said that within the last few years the number of participants in this class of instruction in Mannheim increased from 80 to 1,280. The conditions of the Empire require the teaching of handicrafts, for a staff of skilled workers and artisans is only possible under such a system, and these will improve Germany's industrial products. The eyes, hands, and muscles must be trained at an early age.

Another delegate, Doctor Pabst, the director of the seminary at Leipzig, speaking of the handicrafts in the schools of the United States, said that handicraft instruction forms the actual basis of American education, thus explaining the predominance of technics in the economic life of America.

"Technical training in the United States," he said, "begins at a stage where ours ends. Instead of the useless ballast of mental knowledge received by German boys, they should get practical instruction; otherwise America will push us to the wall, for the United States has emancipated itself from German machine tools. Ere long other countries will follow suit."

In the matter of machine tools, it is a notorious fact that the Germans of late years have vastly improved their manufacturing ability by using American machine tools and reorganizing their works on the American system.

CULTIVATION OF GINSENG.

Consul-General Bragg, of Hongkong, in reply to numerous inquiries from the United States, furnishes the following information regarding the cultivation and marketing of ginseng:

I have been receiving for some time inquiries from many parts of the United States with reference to ginseng. Some of these letters were written by persons desirous of engaging in the cultivation of the

root for market as a business, while others came from persons incited thereto by articles in the newspapers of fabulous receipts from small areas of land devoted to ginseng. For the information of those desirous of becoming cultivators and producers for the markets I have gathered all the information at hand touching ginseng.

Ginseng, indigenous in certain sections of the United States and in northern Asia and Japan, is believed by the Chinese, who have used it from time immemorial, to possess great medicinal properties.

Scientists are inclined to speak lightly of its virtues, but the Chinese, after centuries of use, indorse it as a superior tonic and invigorator, and hence the market for its sale will be lasting and reliable. Rolling and hilly land seems to be best suited for the cultivation of ginseng. It has an annual stalk, but its roots are perennial. Its seeds require two years to germinate. During the first two years of its life the stem shows but slightly above the ground, producing a single leaf not corresponding to that of the mature plant. It matures the third year, producing three leaves of five leaflets each. The bloom of the ginseng is a cluster of yellow-green flowerets, in a close head, at the junction of the leaf stems. The flowers produce clusters of green berries, and when these ripen and fall the stalk shrinks and falls away to reappear the succeeding spring.

The shape of the wild root is somewhat fantastic. The Chinese see in its queer straggling legs and arms a likeness to some spirit in the unseen world, which adds to its value. The native ginseng, i. e., the wild root, is generally preferred by the consumer, under the belief that cultivation and fertilization may have a tendency to detract from the quality of the plant.

PREPARATION FOR MARKET.

In digging and drying the root it is quite important that the neck be left on as a means to detect the genuineness thereof. The small fibrous roots should be rubbed off, but it is important that the main root be as little broken as possible, and that it be made perfectly clean. The roots should be dried slowly and assorted carefully before shipment. The division or grading should be into three grades—say "fair," "good," "selected." The roots should be packed in strong barrels or cases for shipment and in packages weighing, net, 200 to 250 pounds.

The shipment should be by a through bill of lading from the nearest railway accessible to the shipper to the consignee at Hongkong, charges prepaid. East of the Alleghenies the shipment will be cheaper via New York; west thereof, it will be cheaper and quicker to ship via Tacoma, Vancouver, and San Francisco. It is advisable to insure shipment in transit. Insurance should be with "particular average." Hongkong is a free port but the transportation charges from place of shipment to Hongkong will amount approximately to 6 cents gold per 112 pounds. Shipments are as a rule made to be sold on commission. No Chinaman will invest in ginseng until he can examine and know what he is buying, lest other roots, such as parsnips, turnips, etc., may have been mixed therewith. The best time to ship and market calls for the consignment to reach here between June and December. There has been a ready market for well-prepared ginseng at fair prices in Hongkong for years past, and it will always command sale here. Values may vary somewhat, depending, as in everything else, upon the demand from the consuming districts.

The present prices in Hongkong for wild ginseng vary from $1,012 to $1,288 per picul (133⅓ pounds), according to grade and quality. Cultivated roots of similar grades range from 15 to 20 per cent lower.

The color of the root affects its price and sale. It should be of a dark yellowish color; the white color is objectionable in consequence of its resemblance to the Japanese roots. The larger and heavier the roots the higher the price, but small solid roots at times command easier sales, especially when the market has a tendency to that sort of roots. An old root of lighter weight commands a better price than a younger and more solid root of the same size, because dealers and consumers in China attribute more virtue to an old root. Bills of lading should be in duplicate and one copy forwarded at the time of shipment to the consignee.

THE PATCHOULI PLANT.

Consul-General Skinner, of Marseille, France, in response to numerous inquiries received by him from California and other sections of the United States regarding the patchouli plant, writes:

The patchouli plant is a native of India and China, where it is quite common. It is also grown successfully in Ceylon, Paraguay, and the French possession of La Réunion. The leaves and branches possess a musk-like perfume, and upon distillation furnish the essence of patchouli. It resembles the sage plant in height and form, but its leaves are less fleshy. Our first knowledge of this plant dates from about 1850, when the first importations were received in London. At that time real India shawls were selling at extravagant prices, and buyers identified the genuine by their odor; they were perfumed with patchouli. French manufacturers, in order to imitate the India shawls successfully, imported the plant and perfumed their wares with the essence, thus passing off their goods as genuine. Since that time perfumers have taken up the industry for their own account.

The cultivation of the patchouli plant has been going on for centuries in China and the Malay Peninsula. It requires a light soil, level land or slightly elevated hillsides. The plants are transplanted in the rainy season 18 inches apart and then covered with leaves. Six months later the first cutting takes place. Each hectare (2.471 acres) furnishes at each gathering about 344 pounds of dried leaves and branches and 185 pounds of stems. The dried branches bring about 11 cents per pound, and, as there are two cuttings every year, the gross receipts of the growers average about $25 an acre, and at times as much as $40.

The crop is classed under three heads: (1) Leaves; (2) leaves mixed with young shoots and a little wood; (3) large stems. In Java the patchouli leaves are often mixed with 25 per cent of dilem leaves. The patchouli leaves imported from Calcutta and Bombay contain 75 per cent of stems and furnish an essence of less value than the Malay Peninsula plants. The Java patchouli is of fine appearance, but is poor in aroma. The essence is occasionally extracted in the countries of origin, but the distillation of the leaves is only undertaken on a large scale in Europe. The leaves are first cut, then hydrated, left for twelve hours, and then distilled by steam. The yield in essence is

from 1¾ to 3 per cent. The essence is a yellow green liquid, which turns brown in time; it is rather thick, possesses a penetrating odor, which is disagreeable in concentrated condition, but agreeable or at least very characteristic when diluted and associated with other perfumes. The density of the essence at 29.4° C. is as follows: Penang green essence, 0.957; Penang brown essence, 0.958; French brown essence, 1.012; ordinary commercial essence, 1.0119. Patchouli essence is soluble in 10 to 12 parts of alcohol. The material is at times falsified with cedar essence.

The odor of patchouli essence is so strong that few people can endure it. Therefore it is always used in diluted form. When mixed with another essence, the second is imperceptible. The dried leaves are often broken into powder, placed in sachet bags, and disposed of in drawers and closets, as a protection against moths. Almost any importer of drugs should be able to procure the leaves for my American correspondents. In Marseille they might address Oscar Gross & Co., 8 Rue Jaubert; Planchon Aîné de Gelly fils & Cie., 175 Avenue du Prado; Roger Schultz & Co., 127 Boulevard National.

TRADE DIRECTORIES IN CONSULATES.

Consul H. W. Harris, of Mannheim, Germany, calls attention to defects in certain trade publications that are sent to consuls. He says:

Among the publications received at consulates are numerous more or less complete lists of American manufacturers and traders. Though not printed solely for consulates or foreign buyers, stress is usually placed by the publishers on the value of these publications for reference in a consulate and as aids in bringing the trader and his foreign customers together. While such books are of much value, their usefulness is apt to be lessened by either one or both of two chief defects, namely, the omission of the names of many excellent concerns and the insertion of those less worthy, and the omitting of anything to indicate whether the concerns named are engaged in foreign trade.

The first defect naturally arises from the fact that the publications are usually, if not always, prepared as a private enterprise, and the names of those firms only appear which desire to advertise in the book. The other defect could in most cases be corrected by giving the addresses of foreign agents or otherwise. As is well known, many first-class American concerns are fully occupied with domestic trade and do not care to sell in a foreign market. Manufacturers and traders naturally fall into two classes—those who trade abroad and those who do not. The foreign buyer is not seeking the concern which is indifferent whether it sells abroad or not and which will fill an order only for cash and without further responsibility after the merchandise is placed on the cars. He is seeking the concern which is seeking him and is willing to go half way in the matter of trade.

The fact that an American concern has its foreign agents at London, Hamburg, or elsewhere is evidence on its face that the concern is at least attempting to do business abroad. That fact should appear in lists of American traders for use in a consulate or in the hands of a foreign buyer.

Two publications lately received at this consulate may be referred to as illustrations of the above. One, while fairly complete, omits

many well-known firms in various branches and inserts the names of others less well known and less reliable. It makes no claims to insert the names of other than its "members." It gives, however, the addresses of the foreign agents of those having such agents, and is excellent in this respect. The other directory, a book of some 400 and more pages, gives exhaustive lists of manufacturers in certain branches, but no clue to what part of these manufacturers are engaged in foreign trade. For example, eighty different firms manufacturing a certain machine are named. Probably five or six of these have foreign agents. The others probably would not consider an order for a single machine at all.

MINING LAWS OF MADAGASCAR.

Consul Hunt, of Tamatave, Madagascar, furnishes a decree issued by the President of the French Republic on June 23 amending a decree issued on June 3 suspending all prospecting for precious metals and precious stones on unclaimed lands in Madagascar. The effect of this modification will be that requests for prospecting permits may be received and registered by the mining department, which registration will simply maintain priority rights until the promulgation of a new decree amending the mining laws of February 20, 1902. The modified decree issued by President Loubet follows:

The President of the French Republic decrees:

ARTICLE 1. Requests for permits to prospect for natural deposits of gold, precious metals, and precious stones in Madagascar, prescribed on the conditions of chapter 2 of the decree of February 20, 1902, will be, notwithstanding the stipulations contained in the decree of the governor general of Madagascar, dated June 3, 1905, received and registered, as is provided in article 12 of the aforesaid decree, but will have no other effect than to establish the priority of the requests and the eventual rights of the applicants for the obtaining of permits to prospect in accordance with the dispositions of a new law to intervene in the matter. It will not be applied to these prospectors' permits until after promulgation in Madagascar of the said law.

ART. 2. The decree of the governor general of Madagascar, dated June 3, 1905, is amended in all that is contrary to the dispositions of article 1 of the present decree.

WARNING AGAINST FOREIGNERS.

Mr. Walter J. Ballard, of Schenectady, N. Y., directs attention to action by the chamber of commerce of Sorau, Germany, warning manufacturers and merchants against furnishing information giving the condition of the markets and of the manufacturing interests of Germany. The chamber issued a circular on this subject which says in part:

The reports in our technical and trade papers are most assiduously studied abroad, and by representatives of our foreign competitors liv-

ing in Germany, especially by the consuls of the United States. Selling prices, cost, ingredients of composition, tariff rates, etc., should not be published. These form excellent weapons in the hands of our competitors. Public reports should not give details. The chamber always avoids them in its annual reports. No complaints about bad business should be published, as this is hurtful to our export trade. German factories should be kept shut to foreigners.

The chamber also recommends that German trade schools be closed to foreigners.

WORLD'S PRODUCTION OF SILK.

According to the Lyon silk syndicate the world's production of silk in 1904 was 20,268,000 kilograms (a kilogram equals 2.2 pounds), against 18,135,000 for 1903. Of these the following countries produced the amounts set over against each:

	1903.	1904.		1903.	1904.
	Kilos.	*Kilos.*	China:	*Kilos.*	*Kilos.*
France	474,000	625,000	Exports via Shanghai	4,244,000	4,350,000
Italy	3,526,000	4,000,000	Exports via Canton	2,147,000	2,100,000
Spain	86,000	77,000	Japan, exports via Yokohama	4,608,000	5,535,000
Austria-Hungary	275,000	315,000	India	245,000	180,000
Total	4,361,000	5,917,000	Total	11,244,000	12,165,000
The Levant and Central Asia	2,530,000	2,186,000			

WORLD'S NAVAL POWER.

According to the Hamburger Nachrichten, the world's naval power is as follows:

	Reg. tons.		Reg. tons.
Great Britain	1,593,871	Italy	254,510
France	603,721	Japan	252,661
Germany	341,243	Russia	224,237
United States	316,523	Austria-Hungary	112,326

These are in the course of building:

	Reg. tons.		Reg. tons.
United States	324,500	France	170,279
Great Britain	338,129	Germany	126,557

When these vessels are completed the United States will be in third place instead of Germany, as at present.

THE CANADIAN GOVERNMENT, with commendable energy and activity, is reporting trade opportunities in various parts of the world through regularly established trade agencies. Its commercial agency at Yokohama reports a large number of applications from Canadian firms to be placed in communication with Japanese dealers. It publishes these requests in the columns of Japanese papers and acts afterwards as intermediary between the parties.

INTERNATIONAL NOTES.

BIRTHS AND DEATHS IN EUROPE.

According to the new statistical yearbook for the German Empire the excess of births over deaths in 1903 in European States, for each 1,000 inhabitants, was as follows: European Russia, 18; Netherlands, 16; Roumania, 15.4; Denmark, 14.6; Germany, 13.9; Norway, 13.9; Austria, 12.6; Belgium, 12.5; Great Britain, 11.3; Hungary, 11.8; Italy, 11.1; Sweden, 11; Switzerland, 10.1; France, 2.1.

The number of deaths per 1,000 inhabitants varies between 14.6 and 31. The largest number is in Russia with 31, followed by Hungary with 27; Roumania, 25; Austria and Italy, 22.2; Germany, 20; France, 19.5; Switzerland, 17.6; Belgium, 17.2; Great Britain, 16.4; Holland, 15.6; Sweden, 15.4; Denmark, 14.6.

DUTIES ON COLLARS.

The German central bureau for preparation of trade treaties directs attention to the difference between American and German duties on linen goods. Collars imported into Germany pay from 17 to 25 cents a dozen, cuffs about 42 cents a dozen, while it is said the American duty is very much higher. Germany can compete in the United States only with the so-called "quality goods." These "quality goods" are, however, made of linen imported from England, upon which comparatively heavy duties must be paid. The central bureau has inaugurated an agitation for the duty-free importation into Germany of those linens intended for reexportation.

SWITZERLAND'S EXPORTS.

The exports from Switzerland to all countries during the first quarter of the calendar year amounted to $57,718,826 and the exports to $44,253,704, as against $55,471,484 and $42,867,158, respectively, for the corresponding period of 1904.

Among the articles purchased by the United States, manufactures of cotton lead with $2,684,061, followed by silk goods $1,674,374, foodstuffs $505,472, watches $276,070, chemicals $207,825, straw $149,183, millinery $126,664, minerals and precious stones $87,314. The total exports to the United States for the three months amounted to $5,785,362. A large part of the cotton goods consisted of laces from St. Gall.

TO PROTECT GENUINE INDIGO.

According to a consular report from Simla, India, efforts are being made to save the indigo growers from the German manufacturers of artificial indigo. Lord Curzon urged the Indian indigo farmers to find

ways of getting more coloring matter from their harvests by introducing scientific methods of selecting and caring for the plants. It was also suggested that a factory for preparing the coloring matter would pay better than money expended on the farms. All the indigo plants could be collected at such a factory and there treated in such a way as to secure the best results. A combination of both plans it is thought would be best, and might result in India maintaining its position in the world's markets.

COMMERCIAL STUDENTS FROM ITALY.

Thousands of bright young Italians look forward to a visit to America as one of the finishing touches on their commercial education. In my district are scores of men who have passed enough time in America to pick up not only the language but the American system of conducting business and making accounts. Now that Italy is making such strides in manufacturing, her young and alert men will be doubly interested in American business methods.

NEW POWER PLANT.

Consul Dunning writes from Milan that The Societa Lombardia per Distribuzione di Energia Elettrica, of that city, has voted an issue of new stock amounting to 8,000,000 lire ($1,544,000), which will for the most part be devoted to building a new power plant for the manufacture of electrical current over long distances, at Brusio, and for the enlargement of the central power station at Castellanza. The new station at Brusio will demand new work in building and equipment amounting to more than half the total appropriation.

CEMENT AND SOAP IN AFRICA.

The Canadian trade and commerce department is advised by its agent in South Africa that there are fine chances for cement and soap manufacturers to obtain a good market for their products in Cape Colony. Most of the imports to the cape are now received from England and Belgium.

RICE IN CHINA.

Commercial Agent Stang, of Saigon, Cochin China, writes, under date of July 7, that in consequence of shipments of rice being made to Europe, higher prices have prevailed. The exports from January to June 30 last were 679,787,911 pounds against 873,279,243 pounds for the corresponding period of 1904, a decrease of nearly 200,000,000 pounds.

INVITATION FROM DENMARK.

Vice-Consul Burrell, of Magdeburg, Germany, reports that the Danish Association of Agents of Foreign Firms has requested the Association for Commercial Treaties to inform those interested that it has established an office in the Bourse at Copenhagen for the purpose of putting foreign houses in communication with reliable Danish agents, who are particularly adapted to introduce the articles in question in Danish markets. No charges for services are made by the association.

BRITISH POSTAL SAVINGS.

The annual report of the British Post-Office Savings Bank for last year shows that the total amount due depositors on December 31 last was over £148,000,000. During the year the cash received from depositors was more than £40,000,000, and the repayments nearly £42,000,000. The interest accruing during the year was £3,500,000.

SEWING MACHINES IN HONDURAS.

Consul Alger, of Honduras, reports that for the year ending August 1, 1904, there were sold in that Republic sewing machines imported from the United States to the value of $12,833. The total value of all sewing machines imported for that period was $13,055.

RAILWAY MATERIALS IN INDIA.

The Great Peninsular Railway Company, of India, is open for supplies of railway materials (locomotives, copper bars and plates, anvils, smithies and bellows, wire and wire netting, oilcloth, etc.). Offers to be addressed to their London office, 48 Copthall avenue, E. C.

ITEMS FROM JAPAN.

Consul-General Miller, of Yokohama, Japan, reports that under the Japanese customs regulations, if it can be shown that automobiles have been used prior to importation and are to be used exclusively for touring purposes, they will be given free entry, upon oath or declaration of the owner, in the same manner that other personal effects are entered.

Japanese advices record the opening of an electric railroad between Kobe and Osaka. The trains make the distance, about 19 miles, in an hour and a half, including stops at thirty-five stations. Although trains on the Government's steam railroad cover the distance in half this time, the cheaper fares on the electric—10 cents versus 16 cents for third-class passengers—puts it in the power of the latter to compete successfully with the former.

Recent advices from Tokyo are to the effect that the Japanese authorities are considering the project of throwing open Talienwhan (Dalny) and Port Arthur and of permitting free commercial access to these ports. It is expected that this measure will be carried out in the near future. On July 1 there were opened to Japanese colonists and foreign trade the towns of Tashihkiao, Newchwangcheng, Haicheng, Ashantien, Liaoyang, Kaiping, Fengwhengcheng, and Saimachi.

QUININE IN JAVA.

Consul Rairden, of Batavia, Java, reports the results of the fifth public sale of quinine for this year, which was held in Batavia on June 4. There was put up for sale about 10,000 pounds of sulphate of quinine packed in cases of 400 ounces each, and about 528 pounds, the packing of which was at the purchaser's option. The entire lot was sold at $6.52 per kilogram (2.2 pounds), the unit of price being $0.0234.

GOLD AND RUBBER IN MADAGASCAR.

Consul Hunt, of Tamatave, Madagascar, reports to the State Department that a decree was issued in June suspending, until further notice, all laws relating to prospecting for gold, precious metals, and precious stones on all unclaimed lands throughout the colonies.

It is reported that a new kind of rubber tree has been discovered in the island of Madagascar, said to contain much caoutchouc juice, which coagulates upon being boiled, producing 89 per cent caoutchouc of good quality. The tree is called "Pirahazo" by the natives and attains a height of over 40 feet. It is found in groves in the northwestern part of the island near Amboyo and is marketed in Soolola. This caoutchouc has slight mineral ingredients.

OFFICIAL FEE IN MEXICO.

The Mexican foreign office gives notice that, under the new tariff of official fees and taxes, a fee of $8 will be collected for the authentication of a document by that office, in place of $4, as heretofore. Any document forwarded by mail must be accompanied by $9 Mexican currency, or its equivalent in foreign money, postal money order, or easily converted commercial paper.

TRANSPORTATION IN PERSIA.

According to Vice-Consul Ojalvo goods may now go, via Erizhe, a port 38 miles from Trebizond, to Erzerum in six days; travelers in three. This new route will cut off trade from Trebizond that now enters that port for places in Persia and certain parts of Turkey. Henceforth much, in fact most of it, will go in at Erizhe.

CAR COUPLERS IN RUSSIA.

A dispatch from St. Petersburg states that the Russian Government is instituting trial of American car couplers on the St. Petersburg and Moscow Railroad. Director Notten, of the Moscow-Kazan Line, who equipped a train of eight cars with these couplers, is an enthusiastic advocate of their use, but the variety of the types of the Russian cars and the vastness of an undertaking to convert all the rolling stock of the Empire make any present application of the American system improbable.

DROUGHT IN SPAIN.

In his annual report, Consul Bartleman, writing from Seville, Spain, says that a great drought has visited southern Spain, which has caused great disaster to the crops and has made necessary unusually large importations from Russia, India, and Bulgaria. Twenty-six thousand tons of barley and wheat are calculated to have arrived during the last two months. This should prove a favorable moment for American grain exporters to participate in supplying this market, especially with maize, of which it is said no importations have as yet been received.

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CONSULAR REPORTS.

The publications made up chiefly of reports from United States consular officers in foreign countries include the following:

COMMERCIAL RELATIONS, being the annual reports of consular officers on the commerce, industries, navigation, etc., of their districts.
REVIEW OF WORLD'S COMMERCE, being a summary of the annual reports contained in COMMERCIAL RELATIONS.
DAILY CONSULAR AND TRADE REPORTS, issued daily, except Sundays and legal holidays, for the convenience of the press, commercial and industrial organizations, manufacturers, etc.
MONTHLY CONSULAR AND TRADE REPORTS, issued monthly, containing miscellaneous reports from diplomatic and consular officers.
SPECIAL CONSULAR REPORTS, containing series of reports from consular officers on particular subjects, made in pursuance to instructions from the Department.

The above consular reports were until July, 1903, issued by the Bureau of Foreign Commerce of the State Department; from that date until June, 1905, they were issued by the Bureau of Statistics of the Department of Commerce and Labor, with which the Bureau of Foreign Commerce of the State Department was consolidated; since July 1, 1905, they have been issued by the Bureau of Manufactures, Department of Commerce and Labor. For details of these publications, the subjects of which the special reports treat, and the reports remaining for distribution, address "Chief, Bureau of Manufactures, Department of Commerce and Labor, Washington, D. C."

The publication of the reports on special subjects, in separate form, was begun in 1890. Those of the following titles are now available for distribution:

Vol. 2 (1890 and 1891).—European Emigration; Olive Culture in the Alpes Maritimes; Beet-Sugar Industry; Flax Cultivation in Foreign Countries.
Vol. 6 (1891 and 1892).—Coal and Coal Consumption in Spanish America.
Vol. 10 (1894).—Extension of Markets for American Flour. (New edition, 1897.)
Vol. 11 (1894).—American Lumber in Foreign Markets. (New edition, 1897.)
Vol. 14 (1898).—The Drug Trade in Foreign Countries.
Vol. 15 (1898).—Part I. Soap Trade in Foreign Countries; Screws, Nuts, and Bolts in Foreign Countries; Argols in Europe; Rabbits and Rabbit Furs in Europe; Cultivation of Ramie in Foreign Countries.
Vol. 17 (1899).—Disposal of Sewage and Garbage in Foreign Countries; Foreign Trade in Coal Tar and By-Products.
Vol. 18 (1900).—Merchant Marine of Foreign Countries.
Vol. 20 (1900).—Part I. Book Cloth in Foreign Countries; Market for Ready-Made Clothing in Latin America; Foreign Imports of American Tobacco; Cigar and Cigarette Industry in Latin America. Part II. School Gardens in Europe. Part III. The Stave Trade in Foreign Countries.
Vol. 21 (1900).—Part I. Foreign Markets for American Coal. Part II. Vehicle Industry in Europe.
Vol. 22 (1900 and 1901).—Part I. Acetic Acid in Foreign Countries. Part II. Mineral-Water Industry.
Vol. 23 (1901).—Part I. Gas and Oil Engines in Foreign Countries. Part II. Silver and Plated Ware in Foreign Countries.
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Persons receiving CONSULAR REPORTS regularly, who change their addresses, should give the old as well as the new address in notifying the Bureau of the fact.

In order to prevent confusion with other Department bureaus, all communications relating to CONSULAR REPORTS should be carefully addressed, "Chief, Bureau of Manufactures, Department of Commerce and Labor, Washington, D. C."

VALUES OF FOREIGN COINS AND CURRENCIES.

[As given by the Director of the United States Mint and published by the Secretary of the Treasury April 1, 1905.]

COUNTRIES WITH FIXED CURRENCIES.

Countries.	Monetary unit.	Value in U.S. gold, 1905.	Coins.
Argentina	Peso	$0.96,5	Gold—argentine ($4.82,4) and ½ argentine; silver—peso and divisions.
Austria-Hungary	Crown	.20,3	Gold—20 crowns ($4.05,2) and 10 crowns.
Belgium	Franc	.19,3	Gold—10 and 20 francs; silver—5 francs.
Brazil	Milreis	.54,6	Gold—5, 10, and 20 milreis; silver—½, 1, and 2 milreis.
British N. A. (except Newfoundland).	Dollar	1.00	
British Honduras	do	1.00	
Chile	Peso	.36,5	Gold—escudo ($1.825), doubloon ($3.65), and condor ($7.30); silver—peso and divisions.
Colombia	Dollar	1.00	Gold—condor ($9.647) and double condor; silver—peso.
Costa Rica	Colon	.46,5	Gold—2, 5, 10, and 20 colons ($9.30,7); silver—5, 10, 25, and 50 centisimos.
Cuba	Peso	.91	Gold—doubloon ($5.01,7); silver—peso (60 cents).
Denmark	Crown	.26,8	Gold—10 and 20 crowns.
Ecuador	Sucre	.48,7	Gold—10 sucres ($4.8665); silver—sucre and divisions.
Egypt	Pound (100 piasters).	4.94,3	Gold—10, 20, 50, and 100 piasters; silver—1, 2, 10, and 20 piasters.
Finland	Mark	.19,3	Gold—10 and 20 marks ($1.93 and $3.85,9).
France	Franc	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Germany	Mark	.23,8	Gold—5, 10, and 20 marks.
Great Britain	Pound sterling	4.86,6½	Gold—sovereign (pound sterling) and half sovereign.
Greece	Drachma	.19,3	Gold—5, 10, 20, 50, and 100 drachmas; silver—5 drachmas.
Haiti	Gourde	.96,5	Silver—gourde.
India	Pound sterling [a]	4.86,6½	Gold—sovereign (pound sterling); silver—rupee and divisions.
Italy	Lira	.19,3	Gold—5, 10, 20, 50, and 100 lire; silver—5 lire.
Japan	Yen	.49,8	Gold—1, 2, 5, 10, and 20 yen.
Liberia	Dollar	1.00	
Mexico	Peso	.49,8	Gold—5 and 10 pesos; silver—peso and divisions.
Netherlands	Florin	.40,2	Gold—10 florins; silver—½, 1, and 2½ florins.
Newfoundland	Dollar	1.01,4	Gold—$2 ($2.02,7).
Norway	Crown	.26,8	Gold—10 and 20 crowns.
Panama	Balboa	1.00	Gold—1, 2½, 5, 10, and 20 balboas; silver—peso and divisions.
Peru	Sol	.48,7	Gold—libra ($4.8665); silver—sol and divisions.
Philippine Islands	Peso	.50	Silver—peso, 50, 20, and 10 centavos.
Portugal	Milreis	1.08	Gold—1, 2, 5, and 10 milreis.
Russia	Ruble	.51,5	Gold—imperial ($7.718) and ½ imperial ($3.859); silver—¼, ½, and 1 ruble.
Spain	Peseta	.19,3	Gold—25 pesetas; silver—5 pesetas.
Sweden	Crown	.26,8	Gold—10 and 20 crowns.
Switzerland	Franc	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Turkey	Piaster	.04,4	Gold—25, 50, 100, 200, and 500 piasters.
Uruguay	Peso	1.03,4	Gold—peso; silver—peso and divisions.
Venezuela	Bolivar	.19,3	Gold—5, 10, 20, 50, and 100 bolivars; silver—5 bolivars.

COUNTRIES WITH FLUCTUATING CURRENCIES. [b]

Country and monetary unit.	July 1, 1904.	Oct. 1, 1904.	Jan. 1, 1905.	Apr. 1, 1905.
Bolivia:	Cts.	Cts.	Cts.	Cts.
Silver boliviano	40.3	42.2	43.1	43.9
Central America:				
Silver peso	40.3	40.3	43.1	43.9
China:				
Amoy tael	66.1	69.1	70.7	71.9
Canton tael	65.9	68.9	70.5	71.7
Chifu tael	63.2	66.1	67.6	68.8
Chinkiang tael	64.5	67.5	69.0	70.3
Fuchau tael	61.1	63.9	65.4	66.5
Haikwan (customs) tael	67.2	70.3	71.9	73.2
Hankau tael	61.8	64.7	66.1	67.3
China—Continued.				
Hongkong tael	(c)	(c)	(c)	(c)
Nankin tael	65.4	68.4	39.9	71.2
Ningpo tael	63.5	66.5	67.9	69.1
Niuchwang tael	62	64.8	66.3	67.4
Peking tael	64.4	67.4	68.9	70.1
Shanghai tael	60.3	63.1	64.5	65.7
Swatow tael	61	63.9	65.3	66.4
Takau tael	66.5	69.6	71.1	72.4
Tientsin tael	64	67	68.5	69.7
Persia:				
Silver kran	7.4	7.8	7.9	8.1

[a] The rupee, $0.3244½, 15 to the sovereign, constitutes the money of account.

[b] The coins of silver-standard countries are valued by their pure silver content, at the average market price of silver for the three months preceding the date of the circular issued by the United States Treasury Department.

[c] The "British dollar" has the same legal value as the Mexican dollar in Hongkong and Labuan.

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